WHOLESALER'S SALESMAN

CONTENTS SEPTEMBER, 1942

Times and Trends ..... O. Fred. Rost 13
Business Index—Sales and Inventories 17
Business Index—Regional Analysis 20

3RD NATIONAL LIGHTING SHOW IN PRINT

The Biggest Bottleneck of All—Lighting ..... H. Freeman Barnes 23
Where and How in Selling Conversion Lighting ..... Howard J. Emerson 28
Office or Drafting Room Lighting Rates Priorities ..... Fred. E. Guth 32
Sell Good Lighting Now—Essential to Victory ..... B. H. Sullivan 36
The Market for Localized Light—Barely Scratched ..... Thomas Aherne 38
Wartime Tactics for Wartime Selling ..... Charles G. Pyle 42
Light on Blackouts—A Primer for Wholesalers ..... J. H. Aveling 46
Today's Trend in Lamp Sales 52
Broadacres—A Symbol of New Markets ..... J. F. O'Brien 56
Infra-Red Heating for Industrial Applications ..... James D. Hall 62
Selling Drying Lamps for Faster Motor Repairs ..... H. C. McDaniel 65
The Camera Clicks at a Detroit Wholesaler's 68
Price Regulation and Electrical Wholesalers ..... John A. Pfanner, Jr. 73

Aviation Is Doing Its Job ..... An Editorial by J. H. McGraw, Jr. 89
New Products to Sell 82
Wholesaler's Salesman News 94

TESTED A McGRAW-HILL PUBLICATION READERSHIP

O. FRED. ROST
Editor and Manager

HOWARD J. EMERSON
Associate Editor

J. H. AVELING
Assistant Editor

W. A. CYR
Pacific Coast Editor

HARRY PHILLIPS
Art Editor

●

McGRAW - HILL
Publishing Co., Inc.

JAMES H. McGRAW,
Founder and Honorary Chairman

Publication Office
99-129 North Broadway, Albany, N. Y.

Editorial and Executive Offices
330 West 42nd St., New York, N. Y.

JAMES H. McGRAW, JR.
President

HOWARD EHRLICH
Executive Vice-President

MASON BRITTON
Vice-President

B. R. PUTNAM
Treasurer

JOSEPH A. GERARDI
Secretary

J. E. BLACKBURN, JR.
Director of Circulation

WHOLESALER'S SALESMAN (formerly Electrical Wholesaling) September, 1942. (Vol. 23, No. 9). Published monthly, price 25c a copy. Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, Wholesaler's Salesman, 330 West 42nd Street, New York, N. Y. Subscription rates—United States, U. S. Possessions and Latin American Republics, $1.00 for one year, $1.50 for two years, $2.00 for three years. Canada, $1.50 for one year, $2.50 for two years, $3.00 for three years. All other countries, $2.00 or 12 shillings for one year, $3.00 or 18 shillings for two years, $4.00 or 24 shillings for three years.

Entered as Second Class Matter, August 22, 1936, at Post Office, Albany, N. Y., under the Act of March 3, 1879. Cable Address "McGraw-Hill, New York." Member of A.B.P. Member of A.B.C.

Copyright 1942 by McGraw-Hill Publishing Co., Inc., 330 West 42nd Street, New York, N. Y.

BRANCH OFFICES: 520 North Michigan Ave., Chicago; 68 Post Street, San Francisco; 601 W. Fifth St., Los Angeles; Aldwych House, Aldwych, London, W.C. 2; Washington; Philadelphia; Cleveland; Detroit; St. Louis; Boston; Atlanta, Ga.

CHANGE OF ADDRESS

McGRAW-HILL PUBLISHING COMPANY
330 West 42nd Street, New York, N. Y.

Director of Circulation:
Please change my address on WHOLESALER'S SALESMAN

From .....

.....

To .....

.....

Signed .....

SIMPLEST ANSWER TO POWER PROBLEMS

Today's race against time demands modern bus duct systems . . . built for mass production . . . engineered to save installation and maintenance time . . . designed for quick production changes

Within a few brief months, the *impossible* has become *routine* in American industry. There is reason for pride—and hope—in that fact. But how has it been accomplished? By multiplying hours of work. By developing new and better methods. By short-cutting every step of every job. By finding simple answers to *complex* problems.

Distribution of power and light to machine tools was one of those problems—complex because of the vast size of modern war plants, because of constant changes in production set-ups, because of the urgent call for *speed, speed, speed!*

Yet there was a simple and easy answer to this problem — BullDog Plug-In Bus Duct Systems, which today are serving hundreds of key plants in which this war production miracle is being accomplished.

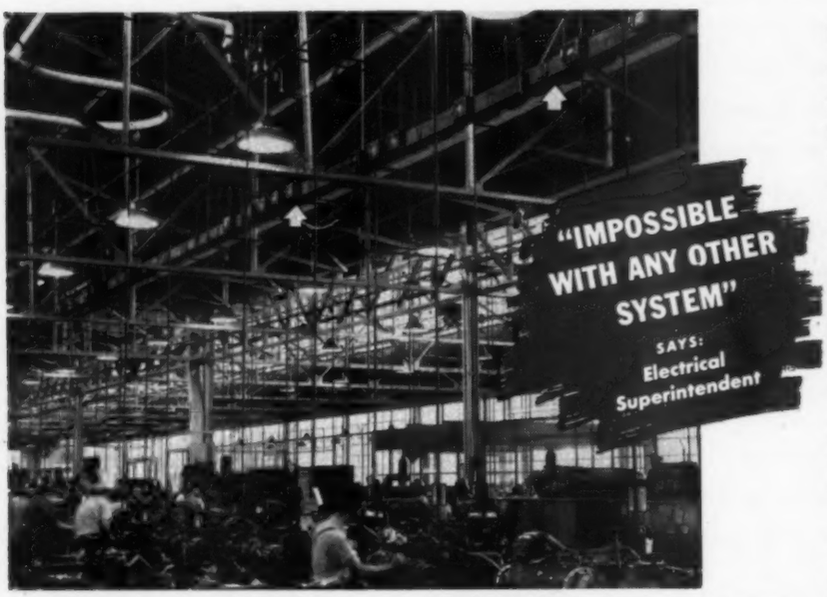
Simple to Build—Install—Convert

BullDog Bus Duct is *simple* in design — speedily manufactured by mass production methods.

BullDog Bus Duct is *simple* to install, follows the roofers down the building. Machines can be plugged in anywhere — and go to work. Days, weeks, even months, of production time are saved.

BullDog Bus Duct is *simple* to convert to any production change —readily moved or extended—and 100% salvable.

A straight line is still the shortest distance between two points. BullDog Systems deliver power and light *direct* to machines at highest efficiency—with a minimum use of war-scarce materials. They are the *simplest* answer to one of industry's most important problems.



The complete installation in this great ordnance plant, one of the largest of its kind in the world, comprises miles of BUStribution DUCT, thousands of protective plugs for plugging in individual machines, and many BullDog switches and panelboards. "It would have been practically impossible," says the Electrical Superintendent, "to distribute power efficiently with any other system."

No other system meets these wartime needs

Power and light *where* they are needed, *when* they are needed.

System can be installed in new plants without waiting for machine layout . . . and machines can go to work as soon as the roof is on.

Tool set-ups can be changed, machines moved, without interrupting light or power.

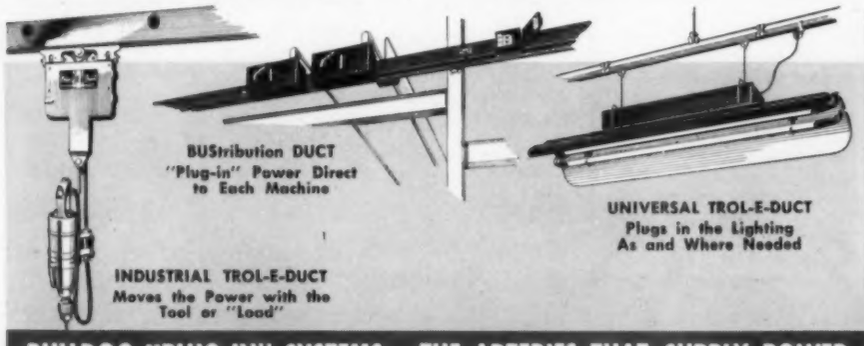
Power operates at higher efficiency, with less voltage loss, than in any other system.

An enclosed system, protected against breakdowns, sabotage and short circuits.

System is engineered for maximum efficient use of war-scarce materials. No rubber needed. Valuable aluminum saved for more critical war purposes.

Installation in a fraction of the time required for old-fashioned wiring.

Standard, interchangeable sections — 100% salvable. Instantly convertible from one production set-up to another.


BUStribution DUCT
"Plug-in" Power Direct to Each Machine
UNIVERSAL TROL-E-DUCT
Plugs in the Lighting As and Where Needed
INDUSTRIAL TROL-E-DUCT
Moves the Power with the Tool or "Load"

BULLDOG
ELECTRIC PRODUCTS CO.
DETROIT, MICHIGAN

BullDog Electric Products of Canada, Ltd., Toronto, Ontario

Field Engineering Offices in All Principal Cities

BULLDOG "PLUG-IN" SYSTEMS—THE ARTERIES THAT SUPPLY POWER AND LIGHT FOR WAR PRODUCTION

TIMES and TRENDS

Your Life Line Many wholesalers have failed to appreciate the graveness of the war situation and particularly they fail to realize that they may be forced out of business unless the various WPB and OPA orders are fully complied with.

We have, at the Distributors Branch of WPB, a real friend in its chief, Linford C. White. He is interested in helping the wholesaler wherever possible, but he can't force them to cooperate. We are quoting hereunder from a sort of SOS letter that Mr. White sent August 21, and not only urge careful reading, but we recommend complete compliance BECAUSE wholesalers must play ball with our government's various war-time agencies, or they will soon find their life-line of materials that they can stock and sell completely severed. The time is near at hand when it will be a question of COOPERATE or CLOSE UP—for duration.

Here are excerpts from Mr. White's letter.

"The Distributors' Branch would appreciate it very much if you will continue to show your members that they should make more use of the PD-1X Application Form. Many distributors are being put in a very tough spot by having to furnish material on an A-10—P-100 rating; much of the material they sell cannot be replaced on an A-10.

We are endeavoring, in cooperation with the end product and raw materials branches, to assign ratings high enough to replace such sales when the applicant properly files on the PD-1X Form. We have been very lenient in passing PD-1X Forms that were not properly filled out, and letters have gone out of this Branch with such cases with proper instructions for refiling. In checking up, we now find that distributors are paying no attention to the instructions given in the letters for future filing, therefore, if forms are not properly filed, cases will be returned in the future. You might call the following facts to the attention of your members.

In filing under Section II (a) and (b), many distributors tend to file the same inventory as contained under Section III. In Section II, we must have the total sales and inventory of the department in which the material is carried, including all items, whether assistance is requested or not. If the company is not departmentalized, they must indicate the total sales and inventory of the entire business.

Many distributors tend to give factory list numbers. This is not desirable, yet on the other hand, we do not want an over-all classification such as "Switches." If the applicant will, in his mind, vision himself sitting in Washington endeavoring to show the authorities here that the distributor should have this material, I believe it would assist him in filing. In other words, what information would he feel it necessary to give in order to properly rate the case.

Also, the distributor very often files under Section III, the total purchase of the item and the total inventory; whereas, the Form definitely calls for information pertinent to short items only. If the applicant will read the Instructions, I am sure he will have no difficulty in filing.

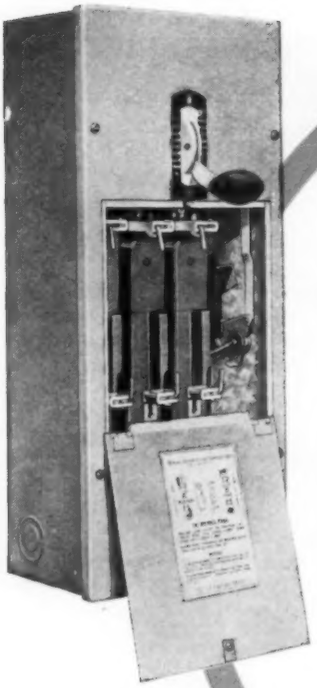
It is very important for the distributor to realize that when it is necessary for him to get materials from his producer without ratings, that when the producer comes in for his assistance on Form PD-25A, generally speaking, he loses his raw materials where he shows no ratings. When a producer loses his raw materials due to selling on unrated orders, this effects the distributor, as the producer does not receive enough material to fill his production schedules—therefore such action acts as a boomerang."

★

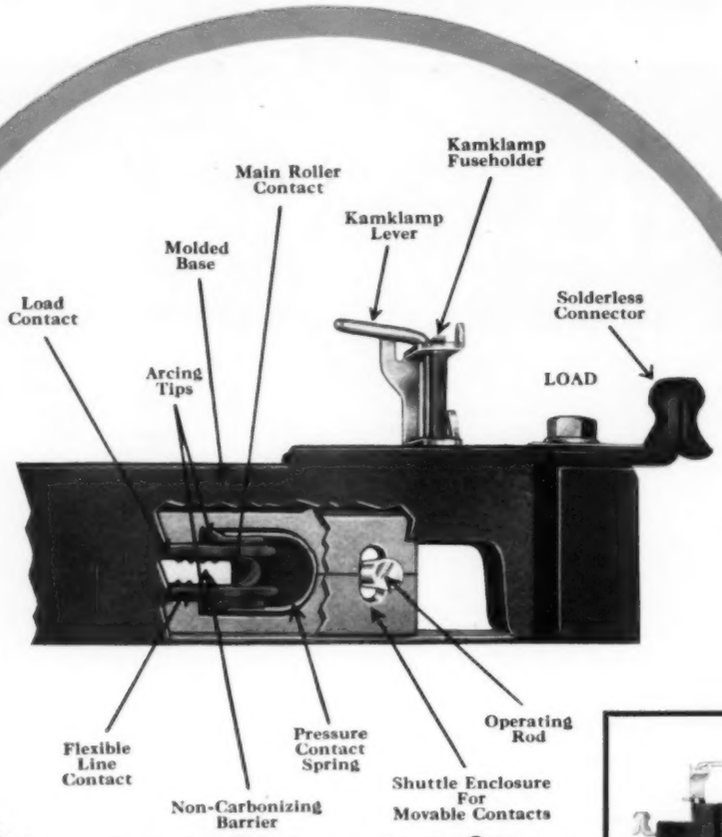
The BIG SCRAP Needs Yours For years the Japs carried our American scrap across thousands of miles of ocean to turn it into weapons. Today we are short of scrap.

That scrap lying around in warehouse and yard may not look like much of anything to you, but Mister, from the far view, getting that scrap into channels where it will turn into bayonets, or rifles, or shells, is one of the most profitable pieces of business that you can do for yourself and your country right now. Every old radiator, leaky wash pail or rusty stove that turns into a weapon of war helps make even surer the fact that you'll be doing business at the old stand after this is all over. By taking a few hours and walking a few hundred feet,

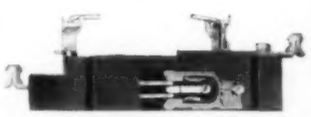
A Revolution in Safety Switch Design!



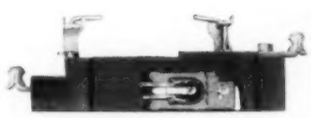
100 Amp., 575 Volt (FA) SHUTLBRAK Switch, Cat. No. SA-10633.



Details of Shuttle Assembly, with contacts ON. One (FA) Kamklamp fuseholder, and the new type (FA) Solderless Connector are shown. Note that the contacts are double break, and that they are held under compression by the pressure contact spring. This assures a perfect connection.



Contacts in OFF position.



Contacts in MAKE or BREAK position.

The contacts are shuttled ON and OFF—

that's why it's called the

(FA) SHUTLBRAK SWITCH

For motor circuits, service entrance, or any installation requiring an operating switch, this heavy duty industrial switch has new advantages.

The roller type main contact and auxiliary contacts are enclosed in an insulated shuttle. This shuttle assembly in turn is entirely surrounded by insulating material. There is an arc resisting barrier at all times between the line and load contacts — and contacts are held under compression in ON position. Silver plated current carrying parts insure low resistance. Properly engineered springs assure quick make and quick break. It is equipped with (FA) Kamklamp (pressure type) fuseholders for either ferrule or knife-blade types of fuse terminals, and with the new (FA) Solderless Type Pressure Connectors.

As an additional safety factor, Type A is equipped with an interlocking arrangement between the switch operating lever and the door of the fuse compartment. The door cannot be opened when the handle is in the ON position. (Type B does not have this interlocking feature.)

Enclosures have ample wiring space at top, and AT REAR of the switching mechanism. Attractively finished in pearl gray enamel.

Front operated, the (FA) Shutlbrak Switch may be used singly, banked in groups, or assembled in compact, well designed switchboards and panelboards.

Capacities: 30 to 1200 amp., inclusive, for 250 volts AC or DC, and 30 to 600 amp., 575 volts AC, in 2, 3 and 4 poles. Approved by Underwriters' Laboratories.

For detailed information, and suggested specifications for Shutlbrak Switches, Panelboards and Switchboards, write for Bulletin No. 59 . . . Frank Adam Electric Company, St. Louis, Mo.

EST. 1891 — THE SIGN OF A BETTER JOB

Frank (FA) Adam

ELECTRICAL PRODUCTS

for Defense Industry

FRANK ADAM ELECTRIC CO. ST. LOUIS, MO. U.S.A.

wholesalers can get those idle materials into the works where their weight will count against our enemies.

★

Progress Report—6 Months Later When the president asked for 60,000 planes, 45,000 tanks, 20,000 antiaircraft guns and 9,000,000 tons of shipping this year, production men gasped. The job was so big that it seemed it would take more than American Industry could give. Nevertheless—Donald Nelson got both labor and management to roll up their sleeves, launched a special production drive early in March and kept pushing it.

Six months later—with 3,500,000 men and 1400 plants enlisted in the drive Mr. Nelson reports that production is approaching the goals which the president set.

★

Distribution Problems The fourteenth annual Conference on Distribution is to be held in Boston, Hotel Statler, October 5 and 6. Once more all major phases of distribution will be discussed by men who are prominent in each respective field. Business policies during the war and in the post-war period will be projected. Top men from the major Washington war agencies will interpret policies and rulings.

Any manufacturer or wholesaler will find time and expenses involved in attending this conference a most worthwhile investment. For complete program and other details address Daniel Bloomfield, Director, Conference on Distribution, Boston Chamber of Commerce, 80 Federal St., Boston, Mass.

★

Not So Bad Hotels in Miami—Atlantic City—Chicago taken over by the government. Such news has confused hotel men themselves as to the situation, and has made the traveling public wonder where it will be staying next. Actually, of 27,987 hotels with 1,445,415 guest rooms the entire country, only 209 hotels with 29,603 rooms have been taken over—a scant 2 percent of the total. Into each of those rooms the government packs 4 or more of the men in service, and pays the hotel from 75 cents to $1.00 per man per day and 3 cents to 4 cents per cubic foot of the public area. Hotel equipment is moved out to storage and government equipment moved in. Not so bad after all, for hotels and—for the traveling public there are still plenty of accommodations.

★

Higher Highs When the Bureau of the Census reported new orders taken by manufacturers' of electrical products during 1941 as better than $2,300 million, records for the industry touched a new high. Now come reports that the first half of 1942 alone has set records that come within shouting distance of that high for the whole of 1941. Total orders for the first six months this year were in excess of $1,800 million, with the first quarter total of $750 million easily topped by the more than a billion dollars of the second quarter. While many factors point to no such continued increases for the rest of the year, totals undoubtedly will be far in excess of 1941.

★

Is This the Top? With the government committed to holding down new industrial construction as far as possible, the $6,000 million chalked up in the first half of 1942 may mark the peak of private and public construction figures for some time. The war program contributed to a $4,000 million total for public construction, as compared with $2,400 million during the first half of 1941. Military and naval construction was up 84 percent, federally financed industrial building up 300 percent. During the first quarter, private construction ran almost even with last year, but, with April 8 marking the deadline for unauthorized construction, the second quarter fell off sharply, so that final figures showed a total of $2,000 million, a decrease of $400 million. Lowered construction totals need not affect wholesalers' sales adversely, since in recent months most of their business has come from sources, carrying high priorities and this is likely to continue for duration.

★

He Had Been Away These days it's a man-sized job to keep up with the changes that government war orders make in our private lives. Not long ago a man walked into a Memphis, Tennessee, drug store, and asked for toothpaste. But he hadn't brought along an empty tube. Then he wanted an item that is "out for the duration." Finally, a war-born tax on another purchase at first seemed unreasonable to him.

"It's nothing we can do anything about," said the clerk, "you see, there's a war going on—or haven't you heard about it?"

"I just didn't know," the customer replied. "You see, I've been away."

Yes, it was Jimmy Doolittle, and he had been away, busy with other things. Things like bombing Tokyo, for instance. (N. B. He got the toothpaste.)

EDITOR

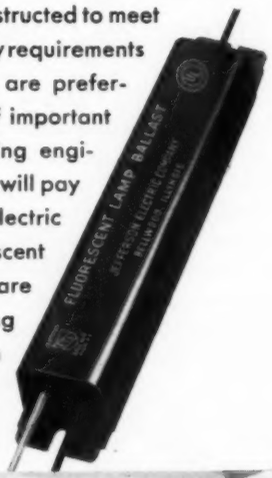
Better Lighting Keeps War Goods Moving

EXTRA WORK-HOURS BRING NEW DEMANDS ON LIGHTING EQUIPMENT

Ballasts Must Meet These Requirements

Better lighting speeds work, reduces spoilages and accidents. Where fluorescent lighting is employed,—in shop, office, drafting room,—selecting the best ballasts available helps materially in obtaining the performance required with minimum of servicing and replacements.

Experienced in the specialized field of transformers, chokes, and controls for luminous (Neon) tubing, mercury lamps and street lamps,—Jefferson Electric Ballasts are designed and constructed to meet the average and present-day requirements of fluorescent lamps. They are preferred by a large majority of important lamp manufacturers, lighting engineers and contractors... It will pay you to specify Jefferson Electric Ballasts for all your fluorescent lamp installations. They are certified by Electrical Testing Laboratories and listed as standard by Underwriters' Laboratories, Inc.



Jefferson Transformers Selected for Peak Mercury Lamp Performance

For Outdoor or Indoor Service... Single and Two-Lamp Transformers

Bulletin 421-ML contains complete descriptions, illustrations and data on transformers for 250-watt and 400-watt lamps—single lamp and two-lamp types, for indoor and outdoor (weatherproof) service.

Correctly designed and coordinated to govern the current through the starting and operating cycles of mercury lamps, Jefferson Transformers more than meet the most exacting requirements. They insure maintained high efficiency and are built to traditional Jefferson standards of quality.

Tested by Electrical Testing Laboratories of New York, and found to comply with mercury lamp manufacturers' specifications. They are listed also by Underwriters' Laboratories, Inc., and carry the Underwriters' Re-examination Service Label. Indoor and Outdoor types are made in all standard capacities.

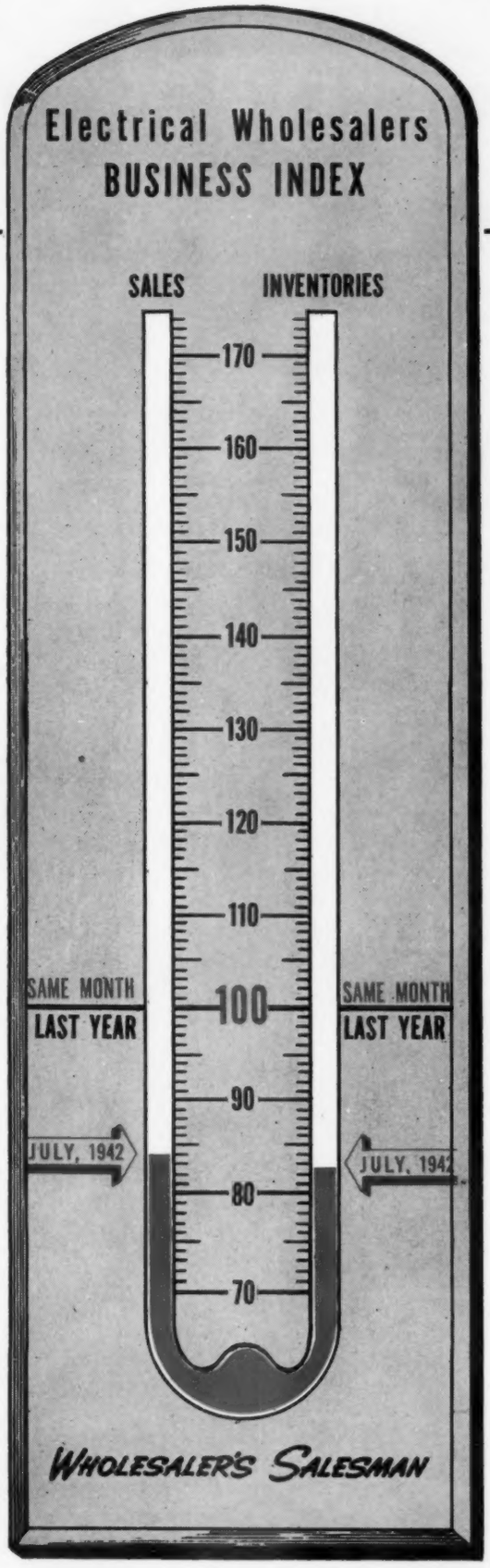
To be sure of top mercury lamp lighting results —specify Jefferson Transformers.

JEFFERSON ELECTRIC

MERCURY LAMP TRANSFORMERS

FLUORESCENT LAMP BALLASTS

JEFFERSON ELECTRIC CO., Bellwood (Suburb of Chicago) Illinois



Business Index
For the Month of July 1942

SALES The July sales, as reported by 317 electrical wholesalers throughout the United States, represent a high level in Dollar volume, although seem less impressive when compared with the record business volume of July 1941. The index registers sales at 16 points below the same month of last year when the sales of electrical goods were 68 points above the good business year of 1940.

A more significant indication of the trend of wholesalers' sales seems to be found in the month to month comparison. We note that the average for sales in May was 9 points below that of April. June sales were down 6 points when compared with May. Sales for July, as shown on this month's index, were down only 4 points below June. This trend toward steady month-to-month sales, as recorded in dollar volume, would indicate a leveling of business at a sound and decidedly favorable level, while the index declines shown when sales are compared with the same months of last year, are no more than had to be expected.

In fact, this leveling of business close to the dollar volume recorded in May and June is in line with forecasts made here predicting a rather steady condition, with sales originating mostly from maintenance, conversion and sub-contracting accounts.

INVENTORIES Figures for July show that deliveries of electrical goods to wholesalers are continuing at a high level in spite of the difficulties being encountered by manufacturers due to priorities and materials shortages.

The average of inventories, as reported by 271 firms, was down 8 points when compared with June.

When compared with the same month of last year, inventory averages showed a decline of 17 points. This drop is in no sense a cause for alarm because today's rigid limitations and other unusual conditions did not exist last year at this time. Appliances and other consumer goods were still produced in substantial volume and manufacturers supplied construction materials and other electrical goods with considerable rapidity compared with today.

COLLECTIONS Collection percentages for July averaged 71 percent, one percent above the previous month and seven percent below the average of the same month of last year. Accounts receivable, as averaged by 293 electrical wholesalers, showed no change when compared with July 1941, and were down three percent from the previous month.

SOURCE These monthly reports covering the business activities of electrical wholesalers throughout the United States are collected and compiled by The Bureau of the Census of the U. S. Department of Commerce.

Have your ear

They should be—because we're talking about you—in "Inch-Marked" ELECTRUNITE STEELTUBES advertisements directed to your customers and prospects.

These ads try to explain your position in war times—tell readers what your situation is and how they can cooperate to help you give them better service—stress the fact that in spite of handicaps, you render a valu service. *They tell how.*

Ads like the one below are running because y worries are *our* worries—because you're doing a gr job under unusual circumstances—because we want help you all we can in keeping old friends.

Suggest
ELECTRUNITE STEELTUBES—
SAVE STEEL FOR ARMAMENTS
"Inch-Marked" ELECTRUNITE STEELTUBES provides the dependable protection of steel for electrical wiring. And it saves steel, too—because it was designed for use with compression-type fittings and does not require extra steel to serve as a base for threading. Every time 100,000 feet of ¾" size is used instead of ordinary threaded conduit, enough steel is saved to produce a 30-ton tank.
Republic
"INCH-MARKED
THE ELECTRICAL RACEWAY

been *burning?*

in "Inch-Marked" ELECTRUNITE STEELTUBES
ertisements in ELECTRICAL CONTRACTING
gazine, we'll be in there *plugging for you* as we always
done. Some of the advertisements, like the one shown
ow, will be devoted almost entirely to your story.

uld you like reprints of the advertisement illustrated and others in the series to send to your customers and prospects? Just write and tell us how many you need.

STEEL AND TUBES DIVISION
REPUBLIC STEEL CORPORATION
CLEVELAND • OHIO

Berger Manufacturing Division • Niles Steel Products Division
Union Drawn Steel Division • Culvert Division • Truscon Steel Company
Export Department: Chrysler Building, New York, New York

REPUBLIC STEEL
CONSTRUCTION FOR VICTORY

even miss his dinner
for you
ALL YOUR ELECTRUNITE DISTRIBUTOR FIRST
've everything to gain and nothing to lose
calling your ELECTRUNITE STEELTUBES
ributor first.
acquainted with him today. Tip him off
t expected requirements and he'll be able
icipate your needs. Be sure to tell him how
aterials will fit into the war effort and the
ence rating that will apply, or its extension.
ust have this information to make deliveries.
r rating should not be high enough to
the material you'd like to have, don't
your distributor. He's the fellow who will
very effort to select the substitution best
o your needs. Day or night, he's ready to
u with your electrical supplies problems.
Because of urgent Wartime Production, he's spending long hours studying customers' needs to adjust them to available supplies. He can deliver enough to get you started on a war project, and he'll assist in keeping the schedule through his many contacts with manufacturers producing all types of electrical supplies for the war effort.
You've everything to gain by calling the man who'd even miss his dinner for you—your ELECTRUNITE STEELTUBES Distributor—first.
STEEL AND TUBES DIVISION
REPUBLIC STEEL CORPORATION
CLEVELAND • OHIO
Berger Manufacturing Division • Niles Steel Products Division
Union Drawn Steel Division • Culvert Division • Truscon Steel Company
Export Department: Chrysler Building, New York, New York
ch-Marked" ELECTRUNITE STEELTUBES—SAVE STEEL FOR ARMAMENTS
you use 100,000 feet of this streamlined raceway (in ¾" size) in place of ordinary threaded
save enough steel for a 30-ton tank. The same amount in 1½" size saves almost 27 tons.
nside steel's protection against current interruptions, danger to life, fire hazard—and speed
nstruction. The "inch-marking" on every length—the patented knurled inside surface—the
compression-type fittings—the ELECTRUNITE Bender—and the bending instruction tag—
o make ELECTRUNITE STEELTUBES easy to handle and easy to install on all types of jobs.
REPUBLIC STEEL
ECTRUNITE Steeltubes
NTINUOUS FOOT-RULE ON EVERY LENG

WHOLESALER'S SALESMAN BUSINESS INDEX

Regional Analysis

JULY, 1942

WHEN compared with the monthly regional sales performance of July, 1941, the sales for July 1942 show a wide variation among the nine trading areas. Highs in the Pacific and Mountain Regions and in the Middle and South Atlantic States balance off lows in the East and West North Central Areas and the East South Central Region to give a countrywide figure of 84.

The industrial states of New York, New Jersey and Pennsylvania, comprising region 2, were ahead of the country with sales at 99 percent of the volume of July 1941. Apparently influencing this high figure is the fact that these states, to a greater degree than most, have been profiting by conversion business. Also, these states were among the first to go into defense production and were already past the original boom by July 1941, so this year's volume is being compared with relatively stable business in that region last July.

Region 5 (South Atlantic States) continued for the fifth consecutive month far above the average and quite close to the sales figures for the same month of last year.

Compared with the previous month there was not an appreciable fluctuation in individual regional sales performance. The highs and lows were only a few points above or below the national figure, which would indicate that sales of electrical goods are leveling off at a substantially high level within each region as well as when averaged for the country as a whole.

The apparently uneven distribution of electrical goods among the 9 trading areas, when this year's inventories are compared with those of July 1941, is more likely a result of unusual conditions at this time last year.

Figures in this table apply to the geographic divisions as outlined and numbered in red ink on map above

SALES July, 1942 Compared in % with		Trading Region (See Map)	INVENTORIES July, 1942 Compared in % with	
June 1942	July 1941		June 1942	July 1941
94	73	1	92	80
103	99	2	94	90
94	71	3	91	81
86	54	4	92	74
86	96	5	90	74
95	77	6	91	55
99	78	7	91	82
106	93	8	94	81
100	95	9	90	103
96	**84**	For **U. S. A.**	**92**	**83**

Then not only were defense industries in certain areas placing unusual demands upon wholesalers' stocks, but manufacturers, whose production facilities were not yet up to the demand, could not ship in sufficient quantity to fill up all the gaps. That created a badly unbalanced inventory situation which, when used for comparison with figures of this July, makes this year's distribution of goods appear uneven.

Month-to-month figures, particularly when traced back to early Winter, show a different condition—one of unusually even flow of electrical goods to the wholesalers in the various areas.

By H. Freeman Barnes*

The Biggest Bottleneck of all . . . LIGHTING

The wholesaler's salesman who learns how to break lighting bottlenecks in war plants will add more production hours to the war effort in WEEKS than he himself could give in a lifetime on the production line.

AT the station — where I was waiting for my train—there were three women there to tell a soldier boy goodbye. As near as I could make out, they were his Mother, his Wife and his Sister. I couldn't help overhearing their conversation—and it was about a lot of little things—nothing important—just the things you say when you don't dare talk about what's on your mind. All four of them were *apparently* in wonderful spirits. It might have been a vacation.

The train came in. Most of the people had gone through the gates. Finally, the boy said, abruptly, "Well, I guess I'm off, now. I'll be seeing you some time."

A kiss and an embrace for each of the three women—and then, without another word or even looking back, he swung his duffel bag over his shoulder and was gone.

His Sister, still smiling, kept waving to him; his Mother, with a sort of set smile on her face, followed him with her eyes, while his Wife suddenly turned and broke into convulsive sobs.

And, I stood there, too, feeling the tears starting to come—with a dryness in my throat. . . .

* * *

And, as important as I have believed the job of lighting was and is, I never felt it more important than at that particular moment. Because I somehow felt that the *one* thing a lighting man can do to help win the war is to help increase production—get more goods out faster . . . faster . . . and perhaps help end this war soon enough so that *this* particular soldier boy will be coming back. And, if it does end soon enough, I'd like to be at that *same* station to see this *same* boy being welcomed back by these *same* three women—Mother, Wife and Sister.

* * *

Any one of us who is engaged in the business of contacting war plants, and has lighting equipment on his list of items which war plants need, has already done more or less of a job in helping plants break the lighting bottlenecks which are holding back production—the bottlenecks of glare, dirty fixtures, insufficient light, shadows, etc.

As I have talked with a great many men in the industry, in the past few weeks, I've rather come to the conclusion that our first and biggest job is to break the biggest lighting bottleneck of all.

The Real Bottleneck

That bottleneck is to some degree in our own minds. The bottleneck which is holding back quite a bit of our energy and activity—due to our thinking that we can't make a living selling lighting and lighting equipment alone. That, unless there are lighting jobs already up for bids, there isn't much we can do about it—practically—to create jobs in the small and medium sized plants.

Obviously, as long as you and I believe we can't earn our keep by attempting to render a lighting service to plants which have not already decided that they need better lighting, we're not going to try too hard—to spend our time and effort on something that may or may not produce results.

Not that we're not sincere, determined, nor do not desire to do whatever we can to help win this war. Not that. Only that, under the present scheme of things, if we feel we can't make a living one place,

* *Manager, Sales Promotion Dept., General Electric Co., Nela Park.*

H. Freeman Barnes

we're going some place else in the war effort where we can do so.

Salesmen in industrial areas, of course, have much greater opportunities to render lighting service than salesmen located in the areas where, comparatively, little war work is being done. But this bottleneck in our thinking occurs just as often in these industrial sections as it does elsewhere. Let's see why this is.

How Lighting Grew

Ever since the advent of the Better Light-Better Sight Activity, the lighting business has been steadily on the way up. It started in 1934 with the advent of the I.E.S. Lamp, which spear-headed a great growth in residential lighting. As the basic principles of better lighting became more and more understood, there was a pick-up in industrial lighting and in commercial lighting.

Then, with the advent of fluorescent, commercial lighting took a tremendous leap ahead—and most of our sales experience during the past several years has been in the commercial lighting field. Commercial lighting was easy to sell because there were so many prospects, and because there were so many different designs and applications of fixtures. We established a pattern for selling in our minds—a habit of going at it which was entirely different from the procedure which has to be followed in presenting the story of lighting to industry.

New Approach Needed

So, when Pearl Harbor came, we were somewhat unprepared for the type of presentation needed to do a job of helping win the war first, and making a living for ourselves second. Our sales thinking was further complicated by the fact that a lot of big new jobs started coming along—jobs which didn't require, in the main, the selling of the *need* for good lighting to increase production—so much as a mad scramble for business on the basis of price and delivery. All of this was and is necessary. But the salesman who tries to apply his past thinking to the rendering of a service to the medium size and smaller plant which has been converted to war goods finds that the going is tough indeed.

And the basic reason for this is not that the problem is hard to solve, but that it must be solved with an entirely different approach. When a man has been going along for years on the basis of selling a particular fixture at a price, it is a tough job of reversing that process—going into a plant *not* to sell fixtures, *not* to sell lighting as such—but to help increase production by breaking the lighting bottlenecks which occur in every plant—large or small.

The salesman who contacts war plants today finds that the man he wants to talk to is terribly busy—finds that that man's main problems are not concerned with lighting but with such things as delivery of raw material; where to get enough competent men for a third shift; delivery on new machine tools; labor management committee operation; rising costs; making delivery dates, etc.

This man just isn't interested in fixing the lighting in his plant. Sure, he'll be the first to admit that something probably should be done about it, but, in his mind, it's a mere detail compared with the things that are really worrying him. So, when someone comes in to interest him in better lighting, he really doesn't feel that he can take the time to go into the matter. Nor does he feel that, in relation to other things, the cost involved, both in time and money, is going to be worth it.

Light Is First

And yet, in the new War Production Board Manual on Plant Efficiency just issued, proper lighting is the first production tool discussed as a means of increasing production, saving the energy of workers, cutting down spoilage, increasing morale and cutting down accidents.

Adding 100,000 Hours

Can a salesman make a living at this important production-increasing job of breaking lighting bottlenecks, or should he work directly in some war plant on some machine or assembly job? He knows, of course, that if he works eight hours a day at a machine for a year, he's added 2,000 extra hours in war production—all by himself. He also knows, or should know, if he can—by breaking lighting bottlenecks in plant after plant—and can get only a minimum increase of 3 percent in production, he may add, by his own efforts, from 50,000 to 100,000 hours of additional war work in a year.

It's Being Done

Yes, it can be done and is being done. Let's look at some figures. One of our men—one of six who have been spending full time as War-Time Lighting Counselors since the first of the year—went into a city of about 80,000 population. The whole-

saler located in that town, with whom we discussed the proposition of putting this man to work contacting industrial plants in that area, said in a letter to us:

"When you came into our town, I rather smiled to think that this man could do any work at all. I thought we had covered it 100 percent."

This War-Time Lighting Counselor spent one month in that town—and here are the figures as to calls:

Number of work days	20
Number of plants called on	45
Number of callbacks	20
Total calls	65
New plants covered per work day	2.25
Total calls per work day	3.25

And, here are the figures as to what happened:

Number of fixtures purchased for initial installation	913
Number of fixtures per employee	0.45

And, to the supplier, this meant approximately $17,000 to be billed by him during a year's time—including fixtures and lamp renewals. However, this isn't all the story. As a result of the jobs started and not completed, in this one month's time, the distributor expects additional sales which he figures should bring the total well over $20,000.

The sales expense on this job, which included the man's salary and expenses, was approximately $400. Thus, the ratio between sales expense and gross billing was not greater than 2 percent.

The wholesaler in this town was glad to *keep* on smiling—for a different reason—obviously—and he was the first to admit that business was there if you had the properly trained man power to go after it.

Building a Bomber in 18 Days

Applying that 3 percent increase-production figure to the worker involved in the plants where improved lighting was actually installed, this man, in 18 days, added over 100,000 man hours. And it takes just that amount to build a four-engine bomber. He contributed as much in less than a month to our war effort, as he would have done had he worked on a production line for fifty years. Doing fifty years' work in less than a month is a *real* job. Doing half that much is no poor job, either.

What happened in this case? Our man who operated this experiment was no better nor any more clever than the regular wholesaler's salesman in that town. But he did have the advantage of knowing how to go about—not selling lighting—but selling his service in helping the plant management increase production.

Actually, and literally, this man did *not* go into a plant to sell a lighting job. He didn't go in with his mind set on fixtures. He went in to render a war production service—not knowing whether, in helping remove lighting bottlenecks, he was going to suggest cleaning of fixtures, or merely re-locating fixtures, or the use of paint, or—additional lighting equipment he didn't care.

One could say, "Well, that's all right for an experimental proposition, but when you've got to make a living, you've got to sell something."

And isn't that the biggest bottleneck of all? If we approach the war production job with the idea that we have to sell something which we have in our catalog, don't we help defeat the very purpose of our call? The experience of this man and the five others who have been working on this sort of job proves over and over again that if you approach the job sincerely, on the basis of rendering a production service—you inevitably accomplish the other—that of making a living.

What to Do?

Here are the highspots of the method of attack as summarized from watching the operations of dozens of successful war-time lighting counselors:

(1) SEEK OUT THE PLANTS WHICH ARE DOING WAR WORK

More and more plants are switching over to war work—plants which you might never think of are turning to war production.

(2) SEE THE RIGHT MAN

The man you want to help—and see—is the man whose prime job and worry is getting out production . . . faster . . . with less spoilage. In a small plant, of course, this is the owner or general manager. In the larger plants, it certainly isn't the purchasing agent—although going to the purchasing agent, telling him, briefly, your story and asking him whom you should see in the plant, has proved to be a quick method in cases of getting to the right man.

(3) SELLING YOUR DESIRE TO HELP

You must convince the man you are talking to of your sincere desire to help win the war—by helping increase production. You have the job of convincing this man, that this is not only the goal to which you have dedicated your time and energy—but also that you know your stuff.

(4) HOW LIGHT CAN DO THE JOB

You will have at your finger tips example after example, either from your own experience or from the experience of others, showing what lighting bottlenecks are and how, by breaking them, production goes up. This, of course, requires study and application on your part—particularly study and complete familiarity with the War-Time Lighting Counselor's Handbook.

(5) GAIN PROMISE TO FIND BOTTLENECKS

Go out with this man into his plant and start pointing out the lighting bottlenecks; demonstrate some of the obvious changes required. The bottleneck of "glare" is one of your best opportunities; ask the production man to change places with one of the operators. And, let him see for himself how either glare or shadows are handicapping this operator's work.

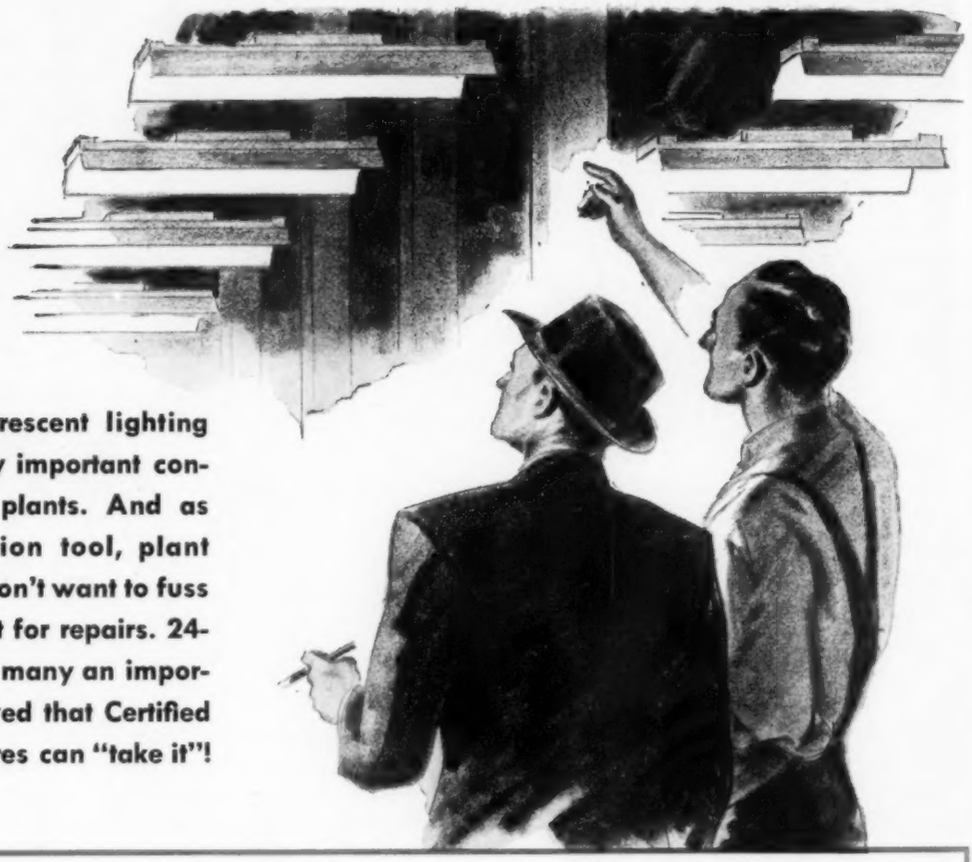
(6) FOLLOW-THROUGH

After you have made your specific recommendation, consider it your job to keep this active until something definite happens. The man you talked with today is going to be awfully busy tomorrow.

* * *

When I finally caught the train out of that station, a phrase kept going through my mind—a phrase that had a much more significant meaning than that for which it was originally coined. That phrase, which has haunted me since and added to my determination to do everything I could to increase production, was the one coined by Frank Buck, "Bring 'Em Back Alive."

FLEUR-O-LIERS



The matter of fluorescent lighting fixtures is a mighty important consideration in war plants. And as with any production tool, plant maintenance men don't want to fuss with costly time out for repairs. 24-hours-a-day use in many an important plant has proved that Certified FLEUR-O-LIER fixtures can "take it"!

DEPENDABILITY COUNTS!

See why it pays to specify FLEUR-O-LIERS

- **Certified starters and ballasts** . . . assuring balanced operation —high power factor.
- **Durability and Safety** . . . electrically and structurally sound.
- **Ease of Maintenance** . . . easy to clean and re-lamp.
- **Maximum light output** . . . Certified control equipment plus high reflection factor assures efficient light from the lamps.
- **Flicker correction** . . . on circuits of two lamps or more.
- **Correct ventilation** . . . no danger of overheating in control unit.
- Every unit carries the FLEUR-O-LIER Manufacturers' Guarantee.

set new Standards of PERFORMANCE AND SERVICE

Fixtures bearing this FLEUR-O-LIER label assure your customers maximum use of their lamps—plus electrical and mechanical dependability. That's important these days when every minute counts—and equipment must stand up!

And here's the reason. Though nearly 50 independent fixture manufacturers make FLEUR-O-LIERS, they all make them to 50 definite specifications set up by the makers of Mazda lamps. And FLEUR-O-LIERS meet these specifications as tested and certified by impartial Electrical Testing Laboratories.

Important: Ballasts and starters have more to do with the satisfactory performance of fluorescent lamps than any other part of the fixture. Because *every* FLEUR-O-LIER fixture has Certified ballasts and starters, you can assure your customers of these advantages: longer lamp life—greater lighting efficiency—full use of the wiring system through high power factor ballasts—long life and dependable service from the units themselves!

A vital tool in wartime production, fluorescent fixtures now require a suitable WPB priority rating. Any of the FLEUR-O-LIER Manufacturers will be glad to work with you on this to get the best lighting possible. Fleur-O-Lier Manufacturers, 2121-9 Keith Building, Cleveland, Ohio.

FLEUR·O·LIERS

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements.

By Howard J. Emerson

The Where and How in Selling Conversion Lighting

Factories changing to war production will need more and better lighting — after conversion they will buy under priorities ratings. Those are the new sales opportunities which no wholesaler or salesman should overlook.

TWO recent developments make it imperative that the electrical wholesaler and his salesmen put their combined efforts into the cultivation of the market for lighting installations that exists in factories now being converted from consumer-goods production to war work.

First, there are the WPB restrictions on the free sale of most lighting fixtures. These rules force the wholesaler to look toward warplant lighting as one available large market.

Secondly, within this warplant market, a recent action by WPB further increases the importance of conversion lighting as a new-sales builder, because, in stopping construction on many new plants that were scheduled to go into operation next year and later, the need for better lighting for more production *in existing plants* is multiplied automatically.

Thus the wholesaler will be able to put his full selling effort behind a drive to sell new lighting to the plants that are now being converted or are scheduled for conversion.

The Conversion Lighting Market

Conversion lighting is no "small peanuts" market. Take a look at these figures given out recently by a large industrialist—eventually there will be 90,000 factories turning out products for the country's war effort; 30,000 are now in full production; *20,000 are now in the process of conversion; 40,000 are awaiting orders that will start them changing over their factories to the production of war-winning goods.*

These factories will need lighting and plenty of it. As they go over to war production their owners assume an obligation to provide adequate facilities that will insure maximum output from men and machines. The Official Plan Book of the WPB places "good lighting" among the first four requirements for boosting production. This need for good lighting was fully recognized by the Government and by those industrial leaders who were responsible for the new huge factories that have been erected specifically to turn out war goods.

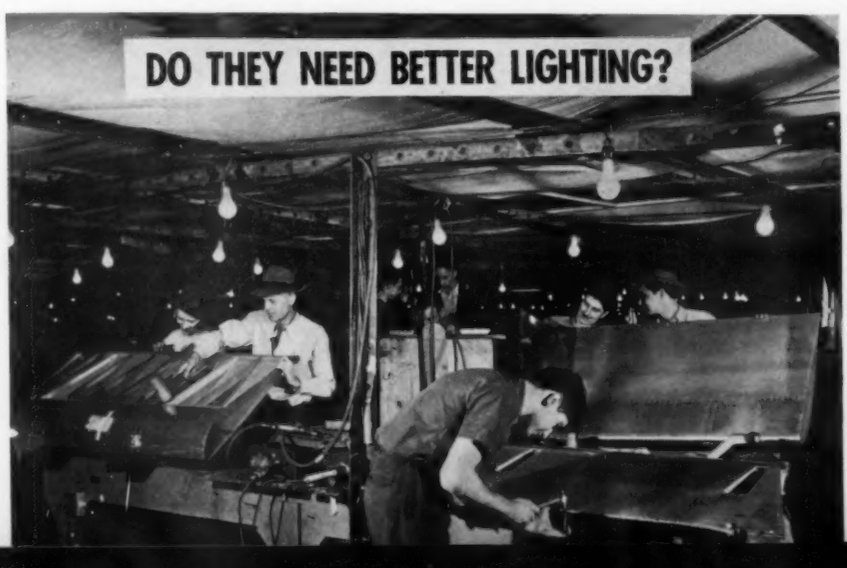
But what about the lighting systems already in use in these thousands of factories that will be converted? Measured by 1942 standards the lighting in most of these plants is poor, and there are many reasons why the existing lighting facilities will not be adequate for war production.

As producers of civilian-goods in a competitive market, many owners were held back from installing new lighting systems because they had not yet been shown or convinced that the lowered production costs and other advantages would offset the original cost. Where the lighting was used merely to supplement waning daylight in the afternoons of winter days, one can't expect to find the same lighting facilities that are considered necessary today, to provide sufficient light for three-shift operation. Also, war production items generally require close-tolerance work that can be obtained only with good lighting and handled speedily only with a properly installed lighting system.

Many employers never knew the potential work output of their employees because they never provided sufficient light to permit and encourage maximum output. With every war contract marked "RUSH," the owners will now have to get 60 minutes of high-speed production from every man-hour. To accomplish this, they will have to provide a system of lighting that will speed production, reduce accidents, eliminate glare and eye-strain, and hold up the morale of their workers.

Another obvious reason why converted factories will be a good market for lighting is that most of them will

DO THEY NEED BETTER LIGHTING? *Former ship repair shop converted to the manufacture of aluminum wing flaps but still using barebulbs in spite of direct glare, low intensity and reflected glare from the shiny metal. (OEM Photo)*



undergo changes in floor plan, they will rearrange machines, add new machines, probably add many new workers. Even if the original plant was well lighted for the production of civilian goods, those changes will result in alterations and additions of lighting and power equipment, all of which will make business for the electrical wholesaler.

Selling Conversion Lighting

There will be undoubtedly some business in lighting installations from the conversion market that will come to the wholesaler without much effort on his part. But, as a rule, this market will remain a potential unless the wholesaler and his salesmen actively go out and sell the executives of factories on the practical as well as patriotic necessity of installing lighting systems that will assist them in reaching a maximum output.

To get his share of conversion lighting business the salesman must do as much of an engineering as a selling job. He must be of assistance to the management as the latter work out their new production problems. He must make sure that whatever may be the operation or the process in production, it will be assisted not hindered by the lighting system.

The first step should be to check on the general lighting system. If it was adequate for the manufacture of civilian products, study the requirements of the war product. If the parts to be handled are smaller, or the tolerances are going to be finer, see whether the old system is adequate for the new work—chances are that it won't be, particularly when the added strain of war production is considered. Then a complete new system should be recommended.

How many shifts per day? That question alone will lead a salesman half way into a lighting contract. Very few of the medium-sized and smaller factories ever worked more than the one daylight shift. Lighting was a supplement to the early morning glow and the twilight of the short days of the year. No manufacturer can expect such auxiliary lighting to serve for high-speed production during the two night shifts.

And then watch for the production bottlenecks—those bad lighting conditions which may exist only on one or two machines in an otherwise well-lighted plant but which inevitably choke up a smooth flow of production. A new machine, a change in materials, different production requirements—any of these alterations in factory production after an otherwise satisfactory lighting system is installed, may require changes in the location of fixtures, additional luminaires, higher intensities, special localized light, etc. The salesman who keeps on the alert for these lighting bottlenecks will locate many potential sales.

Priority Assistance

The War Production Board has given the "go sign" to improvements in lighting for those plants converting to war production, and those whose lighting facilities are not adequate for the work for which they have contracted. The WPB control of this lighting rests in the Lighting and Fixtures Section of the Building Materials Branch. Marshall N. Waterman, chief of this section, has stated that "It is our job to see that American Industry, in converting to war production, is able to obtain the better lighting it needs."

But, no wholesaler or salesman should feel therefore that getting an okay on materials for conversion lighting is a rubber-stamp routine. Mr. Waterman continues ". . . it is also our job to see to it that whatever scarce materials must be used for plant lighting are made to give full value. . . ."

"The Lighting and Fixture Section is prepared" he says, "in proper instances within the over-all priority structure, to recommend adequate preference rating for needed equipment of accepted types for improved plant lighting . . . but if we are to decide wisely we must have the cooperation of those who design and install the new lighting installations. To pass judgment properly upon a proposed relighting job we must have full and detailed information of what changes are proposed and why."

Procedure for obtaining a preference rating requires the use of PD-1A and supplementary information regarding the planned lighting system, to type of war work to be done, etc. The WPB routes the application first to the branch handling the type of product which the converting factory will make. The application there receives a grading showing its relationship to the war effort. Next, the PD-1A form and addenda go to the Lighting and Fixtures Section. Simple jobs are turned over to a staff analyst. More difficult ones go to a lighting specialist where, using recognized standards of the lighting industry, this engineer evaluates the proposed lighting against the present installation, considers the relationship of the proposed light distribution and the intensities to the kind of work involved. He may recommend that the proposed lighting installation be given

(*Continued on page* 81)

DOES HE NEED MORE LIGHT?

Another converted plant (from doll's furniture to incendiary bomb dies) where some wholesaler's salesman can speed the war effort by promoting the installation of adequate general lighting and directional localized lighting for the machine. (OEM Photo)

DO THEY NEED BETTER LIGHTING? In this eastern plant which changed over from making metal screens to the welding of aircraft parts the widely spaced lamps gave so little light and so much glare that OEM photographer Gruber used daylight to make this photo.

WARTIME LIGHTING COSTS REDUCED!

General Electric announces a 12% to 17% reduction in the price of G-E MAZDA FLUORESCENT LAMPS!

Effective September 1, 1942

NEW LOW PRICES ON G-E MAZDA F LAMPS

14-WATT T-12	was 80c	now 70c
15-WATT T-8	was 65c	now 57c
15-WATT T-12	was 80c	now 70c
20-WATT T-12	was 80c	now 70c
30 WATT T-8	was 80c	now 70c
40-WATT T-12	was $1.15	now 95c
100-WATT T-17	was $2.60	now $2.15

Above prices refer to daylight and 3500° white. Prices also reduced on soft white and colored G-E MAZDA F lamps.

Also reduced! G-E MAZDA H (Mercury) LAMPS

400-WATT T-16 AH1	was $11.00	now $9.50
400-WATT T-16 BH1	was $11.00	now $9.50
3000-WATT T-9½ AH9	was $45.00	now $40.00

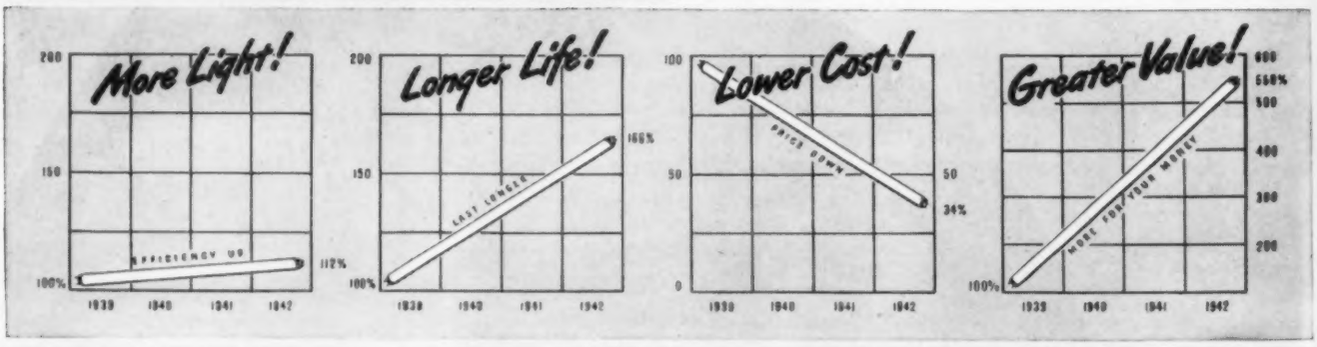
THE SEVENTH REDUCTION IN FOUR YEARS!

NO price reduction, of the many we have been able to make, gave us in General Electric as much genuine satisfaction as this one—made possible at a time when light is being called upon to play a major role in wartime production.

Made in the face of rising cost trends, this reduction is the result of manufacturing economies and technical developments, combined with vastly increased use. It is made in accordance with G-E's policy of passing such savings along to customers.

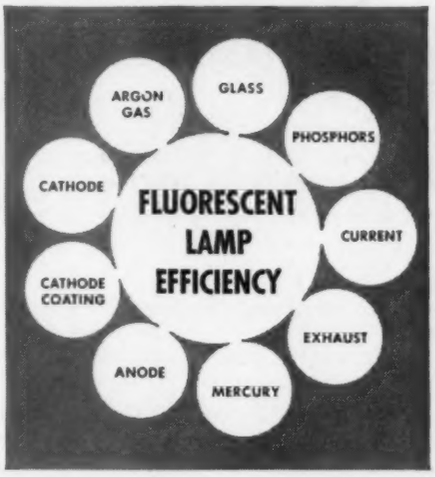
But lower prices are only half the story. Not only have we been able to reduce prices, we have steadily improved these lamps. They give more light! They last longer! They *stay brighter longer!*

For instance, purchasers of the widely used 40-watt white G-E MAZDA F lamp now pay only 95c instead of the $2.80 they paid in 1939. But we are prouder that this lamp lasts 66% longer and is nearly 12% brighter . . . that it gives you 5½ times more value for your lamp dollar than it did in 1939! (See charts below.)



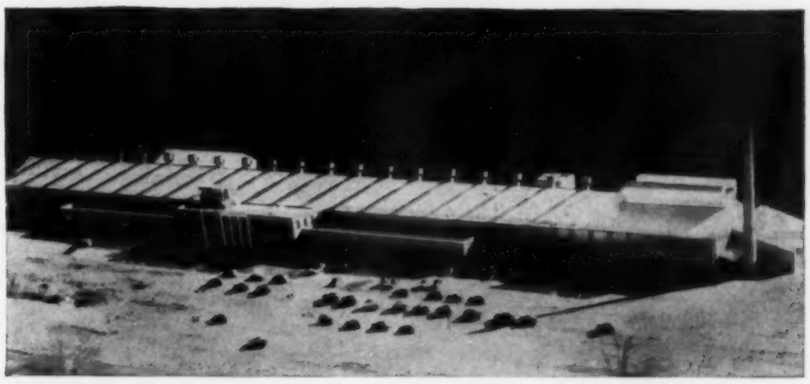
The Story Behind MORE LIGHT *for* LESS COST

G-E research constantly seeks the best possible combination of all factors affecting lamp efficiency. Here are nine of the most important. There are more than a million possible combinations of these factors. It's the task of G-E research to find the *best* possible combination!

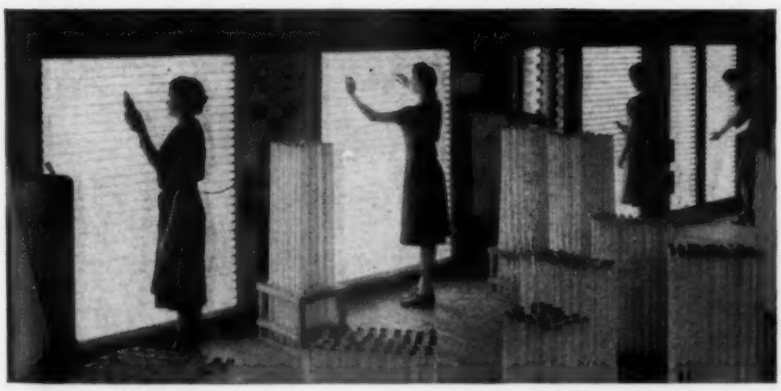


All materials are tested with extreme care. Here, we check the brightness of phosphor powders that coat the inside of fluorescent lamps to make sure that you get maximum performance from your G-E MAZDA F lamps.

Experience counts. W. L. Enfield (left) and P. J. Pritchard have been active in directing research for better product and lower prices.



Here is one of the new streamlined, specially designed G-E fluorescent lamp factories that have helped materially in reducing costs. Sand for glass tubes comes in at one end. Finished lamps are shipped from the other.



Constant testing guards the quality of G-E MAZDA fluorescent lamps. At every stage in the manufacturing process, General Electric inspections provide safeguards of quality. Above, G-E MAZDA lamps are inspected while undergoing a "seasoning" process on the test racks.

Extra assurance of quality is a series of over 50 tests and checks on completed lamps by MAZDA SERVICE inspectors, who work under the direction of an independent testing laboratory.

By Fred. E. Guth*

Office or Drafting Room Lighting Also Draws Priorities Ratings

Today's long hours in drafting room and office call for more light to prevent eye strain—and the wholesaler who wants that kind of business will need to know what equipment to recommend.

PRIMARILY interested in *Priority* lighting jobs, you, Mr. Wholesaler's Salesman have been living mostly with prospects for thousands of industrial lighting units required to light up production areas, assembly line areas, high-bay areas, etc. But there are other "ready fields," there are the office lighting jobs where the administrative, engineering and drafting work is going on in these same war plants.

Glass-shielded fluorescent lamps on 10 ft. centers, 9 ft. high, give bookkeepers 35 foot-candles illumination. (Guth photo)

For easier reading of intricate or faded blueprints, fluorescent fixtures spaced on 10 ft. centers, 9 ft. from floor deliver 35 foot-candles. (Guth photo)

The actual speed of production *starts* and gets its first momentum in those offices and drafting rooms. Due to the skilled qualifications of the men who work there, hours are longer for each "pair-of-eyes"—no three-shifts maybe, but 10, 12 or 16 hours a day for each man is not unusual. The front office works into the night to finish-up that set of figures that must be ready next day. Engineers "work out bugs" in these extra hours—too intrigued in their work to let it wait for the morrow. Draftsmen must complete full-sized drawings before a factory wheel can turn.

Long continued application to close seeing-tasks puts a severe strain upon the eyes. To those attached to the office and drafting room "task force" better lighting there not only means easier seeing and less eye-fatigue, but even salvation from possible impaired-eyesight in later life.

Selling this group of men can be a lot easier than selling a big factory lighting job because you deal with persons who will actually *work-under* the better lighting. Advantages of good lighting are more easily explained and demonstrated. Furthermore, once you "sell" the idea of better lighting, these men will insist that complete details be carried through for an A-1 job—no substitutes—you have sold them on good lighting and *you* shall be responsible to see that layout, fixtures and final job will be just as perfect as you say they can be.

The wholesaler's salesman may choose to do a "Solo-Selling" job or form a "Team," the latter fast becoming popular again just as in the "Better Light-Better Sight" campaign (1933-37) during which period the wholesaler's salesman acted as team captain and his cohorts were the contractor, the lighting equipment manufacturer's representative, and very important, the power company's lighting engineer. Don't overlook importance of the latter on today's "Team"—why—because a campaign that promises big results has just been started. Power companies throughout the country are taking on WARTIME LIGHTING COUNSELORS.

Inasmuch as most lighting jobs from now on will be relighting jobs —either to improve poor lighting conditions or to change over lighting in cases of converted plants—and these are the identical jobs done so effectively by TEAMWORK during the 1933-37 campaigns—work for that

* *Secretary, Edwin F. Guth Company, St. Louis Mo.*

same team-play again! It paid dividends before, and now with similar jobs to be done, it will pay dividends again. Be sure to investigate this WAR TIME LIGHTING COUNSELOR service—see your local power company.

As to the functions of "Solo-Selling" or "Teamwork-Selling," both are the same as of old, plus one new function. Of course scouting work is the wholesaler's salesman's old *"natural";* "bird dogging the field" brings in the prospects from far and wide. Next comes the ground-work, which includes your sales story of good lighting, possibly a sample demonstration (yes, carrying those big 4-footers is a dandy way to sell), layout data, complete cost analysis, and *here's the new one*—explain to your prospect that the War Production Board recognizes good lighting as an essential (Obtain a copy of the booklet "Plant Efficiency" published by the Division of Information of W.P.B.)—and will O.K. good lighting plans properly presented if the re-lighting project will aid the war effort. Have full information on that subject always at your fingertips.

Lighting specifications for administrative, engineering and drafting-room jobs are very similar. Foot-candle intensities for close seeing tasks should be 50 and up. Intensities, of course, go hand-in-hand with lamp-shielding and diffusion. In dealing with these latter subjects you are confronted with psychology problems that may stump the best lighting man. In the relighting job, you are not selling the architect or consulting-engineer, but the ultimate user.

Efforts to please the ultimate user should be the deciding factor in final layout. The best engineered lighting system probably can be sacrificed slightly to satisfy wants of the user. That's where good salesmanship comes in. A lighting-job after all is installed for one-group, or one-company or even one-man. Give them good lighting but if necessary, let the user have his say—for he's the one who can say, "We've got the best lighting-job in the world!"

Initial interest on the prospect's part for a relighting job can be followed up most successfully by presentation of a lighting-layout and cost analysis. Such a presentation can be "neat but not gaudy." First of all, you are dealing with a businessman —time is money to him. Your job is to convince him that you know your business. A plan of his office, with new fixtures and spacings sketched in, a statement on the light he will receive, and definite specification of *the* fixture to do the job is what he wants. A cost-sheet, usually an estimate, showing rewiring costs if necessary (fluorescent usually requires little or no rewiring), cost of lighting equipment, and installation costs should be presented. Teamwork with the WARTIME LIGHTING COUNSELOR and with the contractor can make these presentations easy. Sample demonstration (teamwork with the fixture salesman) in a large office can add a multitude of salesmen for *your* team. Everyone wants good lighting and that sample can do wonders.

Besides his "Team" the wholesaler's salesman relies on "Lighting Tools." A little light-meter still produces consternation to the layman. Brightness-meters, though they have not been used widely to date, can *prove* the old-demon glare without a doubt. And that magic-tube "Fluorescent" still is new to the majority.

Finally, Mr. Wholesaler's Salesman, you must have confidence in the lighting equipment you sell. You depend on the fixture manufacturer who backs you up, who produces equipment that will do the job to be accomplished. With critical materials being restricted right along, you must know that the equipment to be used can be furnished. Most manufacturers are keeping in constant touch with Washington, and up-to-date complete information is constantly sent to the trade.

In conclusion, let us view our market. Defense plants are still going up but the majority of major projects are completed. Those that are going up will be handled by architect's or consulting engineer's specifications and under competitive bidding. The big market is and will be *Relighting*—just as in the "Better Light—Better Sight" Campaign back in 1933-37. You have new fluorescent lighting tools to sell. Demands for higher foot-candle intensities are easily created. You will sell the ultimate user directly again.

You can do more actual selling again—not just bid at cut-throat prices. Prospects are eager to talk lighting for administrative offices, engineering offices and drafting rooms. This field is untouched—new to you and new to your customer. The need for good lighting is present —the doors wide-open.

Units in continuous rows provide 110 f.c. of smooth, even, practically shadowless illumination for these draftsmen. (Sylvania photo)

Recessed troffer units on 4 ft.-centers yield 60 f.c. of light at working plane in this drafting room. (Curtis photo)

Forty foot-candles of light in this office facilitate easy and comfortable reading. Fluorescent fixtures are spaced on 9 ft. centers. (Miller photo)

New VICTORY

with

NON-METALLIC REFLECTORS

Three Advantages Are Combined in the fluorescent fixtures comprising the Day-Brite Victory Series: (1) High reflection values and long life are assured by Day-Brite's "Super-White" baked enamel finish . . . (2) Speed in installation and ease of servicing are achieved through simplified mechanical design . . . (3) Maximum rigidity of the entire installation is assured by truss-like construction.

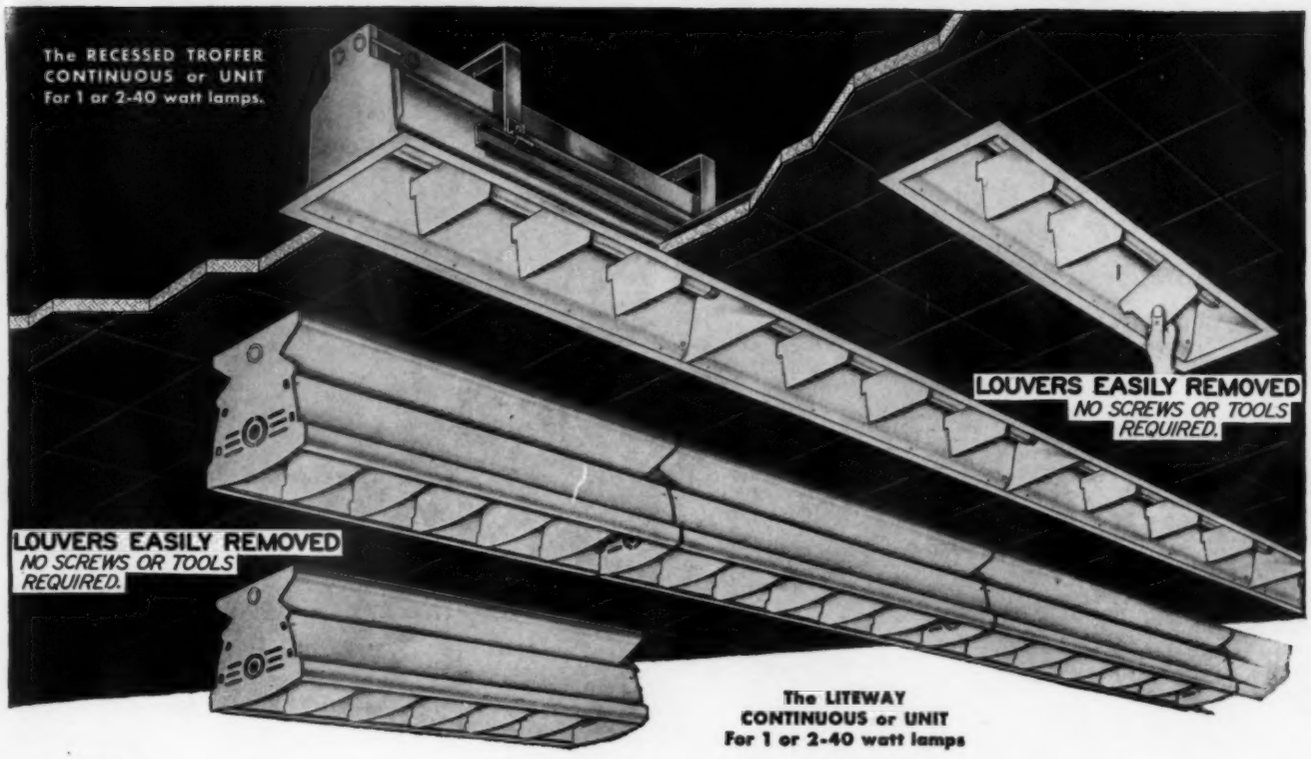
The DAY-LINE . . . CONTINUOUS with "ICE-TONG" HANGER CLAMPS

For Industrial Applications, the Day-Line System of continuous lighting provides a flexible method of installing long, unbroken lines of luminaires. Foot-candle intensities can be easily regulated by varying the number of lamps used, or by spacing the reflectors at intervals on the wiring channel. Installation is particularly simplified by Day-Brite's exclusive "ICE-TONG" Hanger Clamps.

LOW COST INSTALLATION SPEED with "ICE-TONG" HANGAR CLAMPS

It is unnecessary to spot exact center locations for these "one-position" mounting hangers. For any type of suspension, they are merely positioned at any point parallel with the length of the channel. The jaws of the hanger receive the channel and hold it in place (like an ice-tong holds a block of ice). Turning down one screw rigidly locks the hanger clamping jaw in position.

DAY-BRITE LIGHTING, INC., 5479 BULWER AVE., ST. LOUIS, MO.



SERIES FLUORESCENT FIXTURES

The RECESSED TROFFER

Especially adapted to initial installations in all acoustical type ceilings. Ideal for long continuous runs, or unit applications. Louvers are quickly removable for speed in servicing or re-lamping.

The LITEWAY

In essential respects similar to the Recessed Troffer, except that the LITEWAY is specially designed for quick mounting on existing ceilings of all types—either in long continuous runs or units.

VICTORY BEGINS WITH LIGHT

Light is the Nation's No. 1 production tool! Make the Most of the Best of it . . . Specify Day-Brite Victory Series Fluorescent Fixtures. . . . Call Your Day-Brite Engineering Representative.

DayBrite Rivals Daylight — Adds Victory Hours!

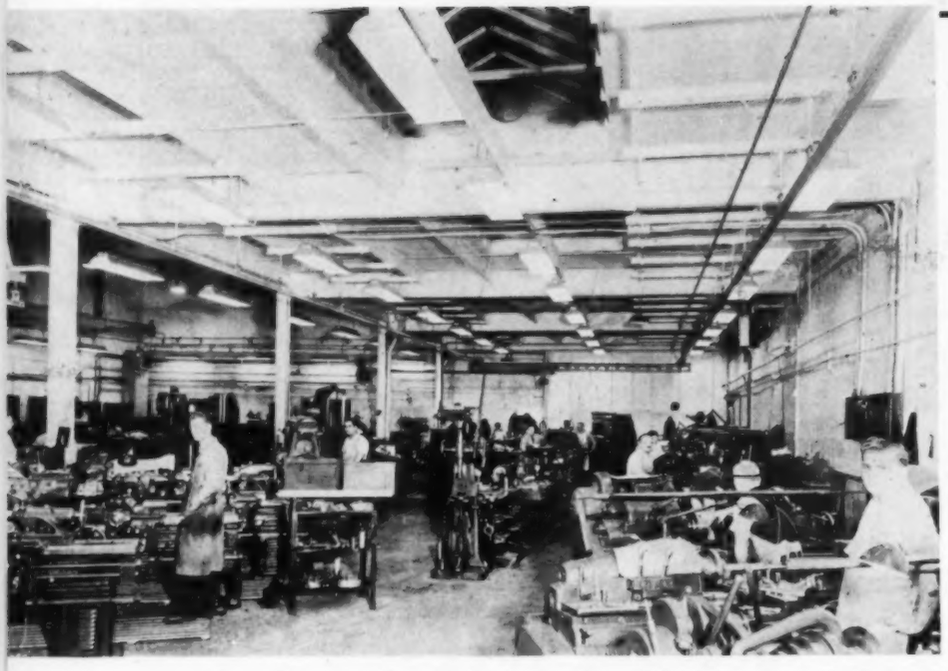
Patent Nos. 2,281,346, 130,740
Other Patents Applied For

56

Day Brite LIGHTING
FLUORESCENT FIXTURES

The COMPLETE LINE OF FLUORESCENT LIGHTING FIXTURES *Nationally distributed through all leading electrical supply houses*

Sell Good Lighting NOW—



Over 25 foot-candles of illumination from RLM Fluorescent fixtures and daylight lamps provide this machine shop with well diffused general lighting. (Westinghouse photo)

FOR every man in uniform, there must be seventeen workers on the home front to supply the food, munitions, medicine, clothing and transportation needed to keep him going. As the armed forces increase in numbers, more workers will be required and already industry is feeling the pinch of restrictions on available manpower. As a result, strenuous efforts are being made to increase the efficiency and productiveness of war workers. Everything which we can do to turn out more war materials per man hour is a direct and valuable contribution to the war effort.

In this work, the wholesaler's salesman has a duty and an opportunity. Because of his intimate knowledge of the materials which speed up production, the contacts which he has built up over a period of years and his fundamental training to be of service, he can help his customers in two ways: by supplying the materials they need; and by bringing them new ideas picked up from other plants and from manufacturers which are his source of supply.

One of the most important ways in which a wholesaler's salesman can help his customers is in the matter of good lighting.

The war-important contributions of good lighting include: (1) accelerated production; (2) improved workmanship; (3) reduction in accidents; (4) decrease in eyestrain; (5) aid to morale; (6) continued production by older employees; and (7) better housekeeping.

Good lighting in war plants will shorten the time between now and victory, it will help to end the familiar cry, "Too Little—Too Late," it can break bottlenecks and help put the war production program into balance. It can save priceless skilled hands and eyes by preventing accidents, it boosts morale, and guards against losses due to sabotage or accidental fires.

These are facts, not just claims. They are facts which the government has recognized.

A recent WPB booklet on plant efficiency states that good lighting sharpens the workers most important faculty, sight, and that it is an effective means of increasing shop efficiency and maintaining produc-

Combined general and local lighting in this war plant gives adequate illumination for close and critical work, saves priceless eyes and skilled hands by preventing accidents. (Westinghouse photo)

*General Sales Manager, Lamp Division, Westinghouse Elec. & Mfg. Co., Bloomfield, N. J.

It's Essential to Victory

By B. H. Sullivan*

tion at a high level. These are the facts which we as salesmen should take to our war plant customers. Not just because we will get an order, but because we will be helping to speed up war production by performing an important service.

It is important, however, to realize that the need for better lighting is not confined to the giant bomber plants and tank factories that are in the headlines these days. Thousands upon thousands of small plants need the help which good lighting can bring.

To meet the production demands, small plants of all kinds are being converted to war work. Plants that made bedsprings are now making parts for torpedoes, and shops that turned out advertising displays now make precision parts for the Ordnance Department. In many cases this means not only re-tooling and new machines but better light because the new work requires more care, closer tolerances and speedy operation.

The WPB wants these plants to have the lighting they need and to facilitate their getting it. A separate section has been set up to recommend preference ratings for increased lighting in factories converted to war work. Naturally we cannot get all of the equipment which we would like or could sell but I believe that through this new WPB set-up wholesalers will be able to get the material necessary to provide good lighting for those customers who need it.

We will, of course, have to comply with requests for information, and support each request with data which will enable WPB to give it proper consideration. At present PD-1A forms are to be used for conversion lighting applications. They must be supplemented with complete description of the area, existing lighting conditions, proposed new lighting installations and wiring changes required. This may seem like a lot of detail but it is essential and required by the WPB.

The information must be supplied by the customer, but in preparing the request, both the salesman and perhaps the local public utility can be of real service. The time spent in getting all the information together before the application is made will be well repaid by the avoidance of delays and additional correspondence.

Let us all take this new responsibility seriously. Let us prepare ourselves to help our customers become familiar with the details required to get priority assistance and learn the fundamentals of good lighting.

This does not mean that I am advocating that salesmen forget their craft and become engineers. But they should know the basic fundamentals of good lighting, such as what intensities are needed for various types of work, about how many lamps are required to obtain it, when to recommend fluorescent and when to recommend incandescent or mercury.

All that is not difficult knowledge to acquire. Manufacturers of lamps and lighting equipment have plenty of literature which covers the subject adequately and such material is available to all salesmen who want to help their country by helping their customers with the tasks assigned to them.

Fifty foot-candles of cool, even light help write the "V" that stands for Vision, Visibility and Victory in this aircraft plant. (G. E. photo)

For getting maximum output from machines in textile mills, using finely spun, swiftly moving threads, high light levels are needed. (DayBrite photo)

By Thomas Aherne

The Market for Localized Light—It's Barely Been Scratched

Don't overlook the warplant market for "plus" lighting, directional and special fixtures. Established factories as well as those converting need this equipment.

So much emphasis has been placed on general lighting as a means of facilitating war production that it is too easy for the wholesaler and his salesmen to overlook other lighting markets which are of the same direct importance to him and just as vital to the successful prosecution of the war.

Localized lighting is one of these markets that warrants attention. Making a real effort to sell it will mean additional business from warplants which are already equipped with adequate general lighting systems, and which would otherwise be markets for maintenance material only. A sample of a localized lighting unit is also a good door opener with prospects that have been difficult to sell on large general lighting installations.

Localized lighting fits into the warplant lighting picture better when described as supplementary lighting. General lighting is basic, furnishing working footcandles over large areas, helping to relieve harsh brightness contrasts and increasing safety conditions, regardless of the type of factory. Localized lighting is directly connected with one specific operation or group of very similar operations within even a well lighted plant.

Aging eyes need more light, particularly in exacting work on machine-gun parts as in this converted watchcase factory. Directional fixtures close to the work supplement general lighting. (OEM Photo)

There Are Three Types

There are in most factories one or more of three particular conditions which require high footcandle values or special lighting requirements which are obtained neither easily nor economically by general lighting alone.

For instance, in plants where unusually high levels of lighting already are supplied, but 100 footcandles or more may be needed for small or restricted areas, such situation would call for what is commonly called "plus" lighting.

When it is necessary to aim or position light sources to avoid shadows caused by men or machines or to direct high intensities at small areas, localized light of the "tailor-made" variety is used.

Where a part of the manufacturing process calls for a light of particular brightness, size, color or characteristic, there the most suitable unit of the many available types of localized lighting equipment should be recommended for handling the job.

There can be no question whatsoever but that every war plant now serviced by the wholesaler's salesman is a market for localized lighting equipment. However, it is obviously up to the salesman to look for this type of extra business, and to do that he must know some of the more general situations where he will find need for this equipment.

"Plus" Lighting

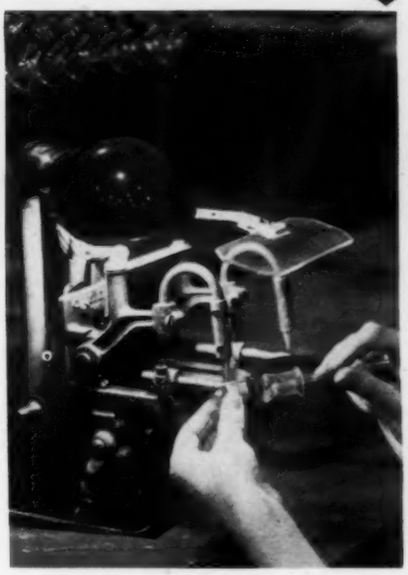
"Plus" lighting is probably the most needed of the three types of localized light, particularly in warplants that have installed adequate general lighting systems. The management and even machine operators, struck by the sudden advent of 50 footcandles of light, thereafter may be inclined to eliminate light as a problem in any operation. Yet there are many situations in which two or three times that intensity of light is needed over a number of square feet if maximum production is to be obtained. When such production bottlenecks develop at any point the alert wholesaler's salesman has an opportunity to show what a localized increase in light intensity can do to break the bottleneck. Ultra-fine measurements with micrometers and other instruments, inspection, rapid assembly of small parts—these are but a few of the industrial operations which the salesman should keep in mind as he looks for prospects for "plus" lighting equipment.

As a rule, "plus" lighting is supplied by special large-area low brightness units which can be mounted from 3 to 5 feet above the work. Available for

Directional light increases the efficiency of this worker whose eyes must catch possible flaws in minute machined parts. (Fostoria Photo)

Salesmen can sell war industry good localized lighting like this where an overhead large-area low-brightness unit and the concentrating light supplement the general lighting. (Curtis Photo)

Fifty-watt shielded daylight lamp brings high intensity to aid these hands in spot welding tube parts. (Sylvania Photo)



supplying "plus" lighting are four types of units, each of which has distinct advantages for particular production jobs. One is a bank of fluorescent lamps with suitable reflecting surfaces to insure uniform brightness. Another consists of a luminous element mounted in a box containing lamps. The third is in effect a large shallow trough-shaped mat-white suspended ceiling illuminated by lamps in an inverted trough reflector below the ceiling element. A fourth device is the same suspended ceiling illuminated by silvered bowl lamps placed below the ceiling.

Concentrated High Intensity

There is a big market in war production plants for that type of localized lighting which must be aimed or positioned to concentrate a high intensity of light only where it is needed. For instance, in a factory having a general lighting system providing 50 footcandles of illumination over the working area, the light may be perfectly satisfactory for the operation of a large machine—except in one or two places where an intensity of 100-250 footcandles is needed for inspection or instrument reading purposes. Boosting the general lighting level to that high footcandle level would be costly and wasteful when a couple of small concentrating units could serve adequately and prevent any slowing down of production at that point. Many cases, similar to the above example may be found in almost every plant.

When the wholesaler's salesman finds that directional lighting is needed, he has a wide variety of equipment available from which he can select the correct concentrating unit to recommend. The use of the projector lamp with its point light source has added to the variety and versatility of this type of tailor-made lighting. These supplementary units can be located out of the way of workmen and away from careless handling by being clamped or mounted on the machine, on the sidewall or column, or suspended from the ceiling 4–5 feet from the work. However, it is very important to remember that when installed in any of these locations the concentrated light source should be deeply shielded or else located so that no glare reaches the eyes of the workman.

Localized Special Lighting

Although localized lighting of a certain shape, brightness, color temperature, size or characteristic, has had for some time an established place in industry, it was never as much in demand as it is today. The wholesaler's salesman who understands the varied uses for special purpose lighting can be of great service to his customers in helping them speed up production or to improve uniformity and quality of their product. He will be, at the same time, developing a sizeable market for himself.

The special lighting equipment which he can sell to war production plants includes:

Vapor-proof, explosion-proof and dust-tight units for use in locations where corrosive vapor, inflammable gases or explosive dusts are likely to be encountered. These same units are recommended for moisture-laden atmospheres such as steam processing rooms, engine rooms and shower baths.

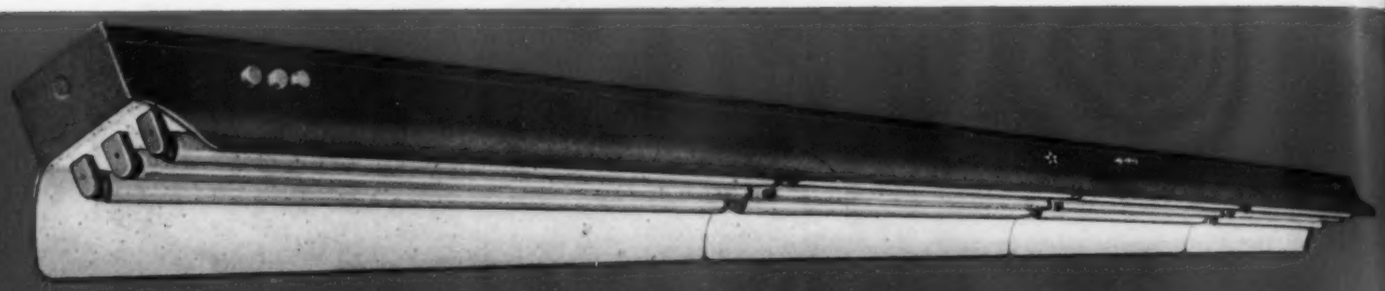
Silhouette or transmitted lighting equipment has many uses in industry. For instance, in the textile industry it is recommended for the detection and location of any defects in open-weave fabrics before they are finished. Elsewhere it is used for testing, as it will reveal certain flaws, defects and foreign material in paper, plastics and bottled liquids. It is used also to show, by refraction, any bubbles, blisters, defects, cracks, chips and whorls in such transparent materials as glass jars, bottles, bulbs, and clear plastic materials.

The special lighting equipment generally recommended for such jobs consists of large-area low-brightness units that are so arranged, that the products to be inspected pass between the light and the observer.

In addition to the above, infrared, ultra violet, polarized light and stroboscopic light all have their important places in peace-time industry as well as war production and their sale, along with localized lighting equipment, represents profit making opportunities for the wholesaler's salesman. However, as each is used not for the intensity of its light, but because of certain peculiar characteristics, the salesman should study these characteristics carefully before attempting to make specific recommendations to his industrial customers.

Fluor-O-Master
BOMBER LINE

SPECIFIED FOR AMERICA'S LEADING WAR PLANTS



THERE'S A FLUOR-O-MASTER FOR *Every Purpose* IN WARTIME INDUSTRY

The great new Fluor-O-Masters are doing their part to increase war production all over the country. 78,00 Fluor-O-Master Bombers — the world's largest fluorescent installation — are making "More light power for more man power" at the Ford Bomber Plant. Below is a partial list of Fluor-O-Master users selected from the country's leading producers of war material.

Ford Motor Company; Timken Axle Company; Boeing Aircraft Corp.; Hudson Motor Company; Philco Radio Corp.; Western Electric Co.; Bethlehem Steel Co.; U. S. Army Air Corps; Federal Ship Bldg. Co.; General Motors Corp.; Gulf Ship Bldg. Co.; U. S. Navy Air Corps; National Lock Company; U. S. Engineers; U. S. Army Signal Corps; Chicago Screw Company; Great Lakes Naval Training Station; Glenview Naval Training Station; Miehle Press Co.; McGraw Electric Co.; Remington Rand Corp.; Naval Diesel Supply Depot; United States Motors Corp.; Allison Engine, Division of Gen. Motors Corp.; U. S. Army Quartermaster; Bohn Aluminum Corp.; Douglas Aircraft Corp.; Austin Company.

ELECTRO MANUFACTURING CO.

2000 WEST FULTON STREET • CHICAGO, ILLINOIS

• READY SEPT. 15th

Electro's new 40-page Catalog

FEATURING "AMAZING NEW LIQUID PLASTIC"

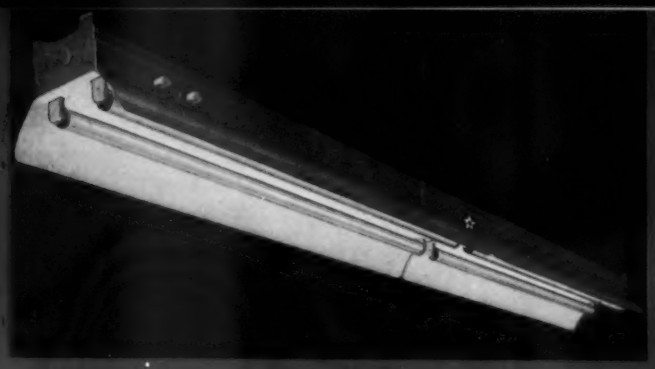
Electro's exclusive "Liquid Plastic" protects all surface and provides improved reflector lining.

FEATURING THREE GREAT NEW SERIES OF FACTORY FLUORESCENTS

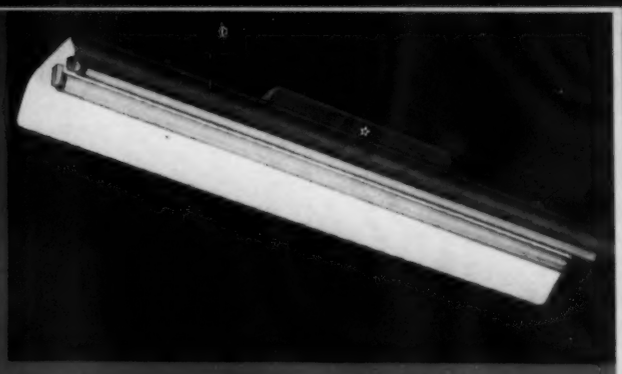
There is a Fluor-O-Master for every industrial need.

FEATURING REVOLUTIONARY NEW TYPES OF CONTINUOUS ROW INDUSTRIAL UNITS

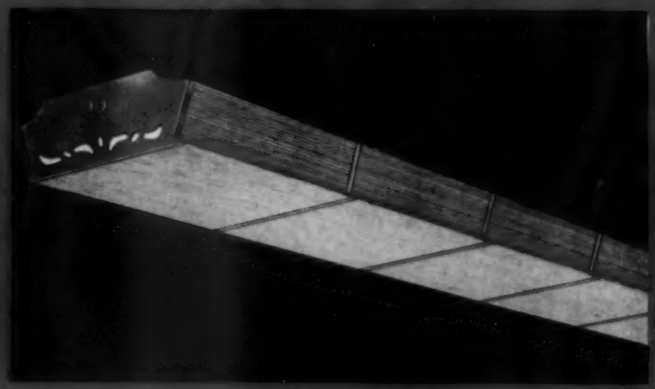
The most efficient continuous row lighting made.



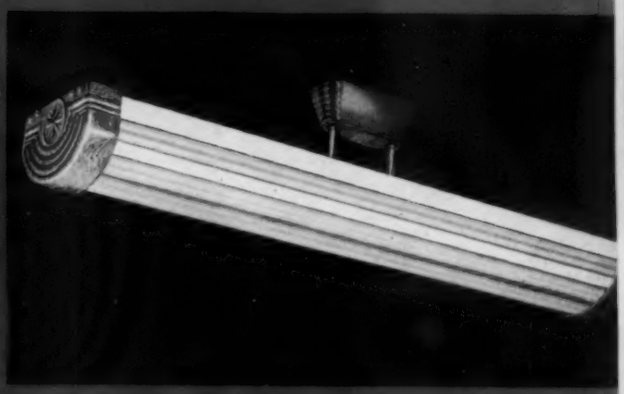
FLUOR-O-MASTER BRITE-ROW CONTINUOUS
CHANNEL FACTORY LIGHTING



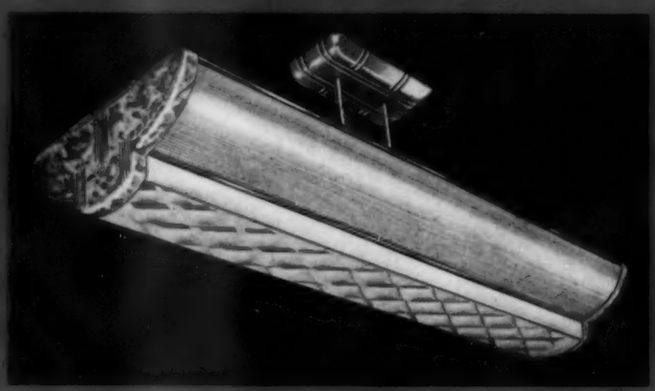
FLUOR-O-MASTER BOMBER
DELUXE INDUSTRIAL LIGHT



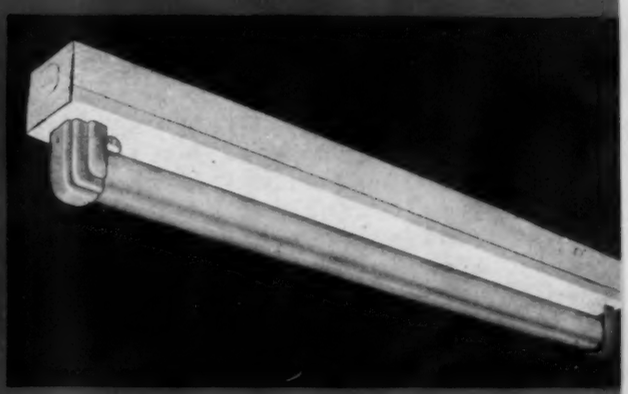
FLUOR-O-MASTER U.R.C. CONTINUOUS
CHANNEL LUMINAIRE



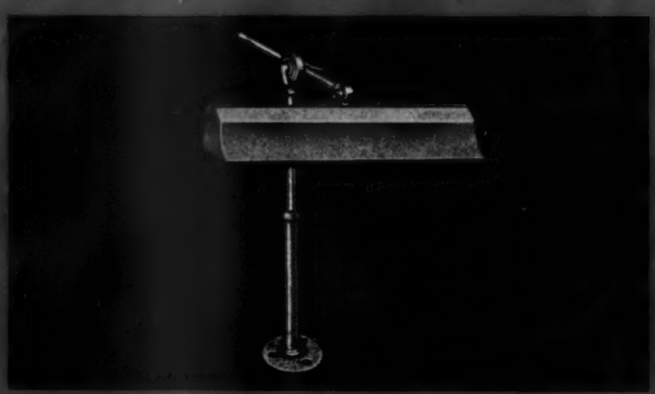
FLUOR-O-MASTER ROYAL
ALL-PURPOSE FLUORESCENT



FLUOR-O-MASTER MASTERPIECE OFFICE
AND GENERAL LIGHTING



FLUOR-O-MASTER STRIPLITE
STANDARD STRIP UNITS



FLUOR-O-MASTER BENCH LIGHT ADJUSTABLE
INDUSTRIAL TABLE MODEL

FLUOR-O-MASTER DESK LAMP FOR
OFFICE ILLUMINATION

IF IT'S FLUOR-O-MASTER, IT'S THE BEST

Wartime Tactics for Wartime Selling

Using "Paratroops" for wartime selling should enable wholesalers to maintain satisfactory sales, service and profit records, reinforce status as essential in a war economy.

By Charles G. Pyle*

A STORY best exemplifies the first point I shall want to make because I think it is quite appropriate. . . .

A "Paratrooper" who had never actually made a parachute jump was given the word to make his first jump over territory in a rural area. He jumped from the plane and pulled the ripcord in his "chute." *Unfortunately,* the parachute failed to open. *Fortunately,* however, he had an auxiliary parachute, so he pulled the ripcord on that. *Unfortunately,* this chute, too, failed to open. *Fortunately,* there was a haystack just beneath where he was going to land. *Unfortunately,* there was a pitchfork, with tines pointed skyward, right in the middle of this haystack. *Fortunately,* he missed landing on the tines of the pitchfork . . . BUT, *unfortunately,* he also missed the haystack.

The point which I wish to register right at the start, is that each and every wholesaler and his salesmen should consider himself *fortunate* that he is able to be a part of *industrial* selling. Indeed, with our country engaged in war, we should *all feel very fortunate* that we are able to buy and sell the lines of that group of manufacturers whose products are so very necessary to, and required by, the industrial concerns that are engaged in war production.

In stark contrast with our fortunate position is the plight of the manufacturer whose sole market lies in the commercial and domestic fields, where in many cases the lack of priorities excludes the remotest possibility of making sales. Those *unfortunate* manufacturers didn't have much of a chance to "land on the haystack."

However, the combination of present day circumstances which has apparently left electrical wholesalers in what might be considered a "fortunate" position, merely means that they have not been *eliminated* from the picture by the complete closing off of their markets. In other words, they are *fortunate* because they have been left in a *fighting* position.

Today, what wholesalers *have* done counts less than what they *are* doing . . . and what their future may be depends largely on how rapidly they change their sales and service tactics to meet the rapidly-changing business conditions they are encountering in a war-torn world that is a far cry from the comparatively placid merchandising routine of 1939 and 1940.

What wholesalers cannot afford to forget under existing circumstances is, that the huge industrial potential which has been created by the war is not in the nature of a *premium* that comes with the good fortune which has been mentioned. There is a certain element often referred to as "competition," which still remains in the picture. None have a monoply on any particular product nor on any customer nor on any territory. As a matter of fact, the narrowing of the channels through which orders can be secured has obviously intensified the competition for the business from perhaps "fewer-in-number" but "larger-in-size" customers.

Of course, fundamentally, the fact remains that sales are where you find them, but we all have learned in the last year that the unusual angles introduced by a wartime economy add up to the truth that sales are found in considerably *fewer* places than heretofore.

It is a grim fact that shutting off some of the wholesaler's peace-time markets and restricting the scope of their operations has resulted in a heightened competition in the industrial market that calls for a newer type of stream-lined thinking and a distinctly different sales approach. They are right down to the point which advertising men call "reasons why" copy, namely their abilities to combine economical but superior service with intelligent sales cooperation must supply continuously undeniable "reasons why" they should be kept in business throughout the war emergency.

Out the window go fine writing, fine talking, frills and frosting. Purchasing for wartime industries gets right down to fundamentals. Selling also has had to "cut out the *frosting.*" The wartime industry purchaser may need the type of product wholesalers sell but he is not obligated to buy from them. Reduced to simplicity, all he wants to know is: "Will the wholesaler fill my needs better and faster than some

* *General Sales Manager, Sylvania Electric Products, Inc.*

Charles G. Pyle

other source?". . . "To what extent will the service of a wholesaler's organization help me to keep my plant operating to best advantage, as compared to the services offered by some other agency?" and "Can you deliver the quantity I need, when I need it, to where I want to use it?" I believe the whole problem reduces itself to those simple questions, but experience has taught that "simple" things sometimes become quite complicated in the actual doing.

As a sales manager, I like to believe that sales and business tactics are not static. I like to believe that we are always capable of changing both our strategy and our tactics to meet any new set of circumstances that may confront us. Inside our own organization, I think we have succeeded to a large extent in meeting the challenge of the times. I call our new tactics "Paratroop" tactics.

Just as the present war is primarily a battle of mechanized forces, and in strong contrast with the "Infantry-in-Trenches" type of warfare employed in World War No. 1, so must present wartime selling be a different, more modern type of selling than that which marked our former peacetime way. The prospects who can buy your goods today do not present a large, unbroken, market front in every territory. They are numbered in quantity . . . scattered in location.

There would be a huge waste of valuable ammunition in sending over into such a market bursts of selling-shrapnel in the hope that one fragment might strike a worthwhile prospect with an A-1 priority. Far more effective in this new, mobile type of sales warfare is a sales and service organization in which each man constitutes a stream-lined unit, carefully trained to concentrate upon definite objectives, and ready to go into action on the moment. This type of a unitized "Paratroop" organization would be to a wholesaler for the duration what parachute troops, jeeps, planes and tanks are to the military tacticians.

Here is how our company's "Paratroop" squad is set up and it will be noted that the plan can be readily adapted to any aggressive wholesaling organization.

First comes the salesman in the field. He is the "boss" of his own territory. His first function is that of an "Intelligence Man." He must be alert to all industrial activities in his area that might be in the market for electrical products. He must endeavor to get all essential data on any prospective job. He must know if the job is to go out on bids, and which contractors are going to bid. He must know approximately how large the order will be and what specific quantities, types, models or sizes will be required. Above all, he must report at once to headquarters about jobs that are coming up. And, of course, he must report exactly what kind of service will be required.

At the main office is the CONTRACT Department, which in the military sense, might be called "Headquarters," because there the staff work is done. There all factors are coordinated, and necessary figures prepared for those who plan the sales strategy and tactics. This department is responsible for seeing that a proper task-force is mobilized to handle this or that particular job. That office keeps in daily communication with the men in the field.

Fully as important as the actual salesman on the job is the commercial engineer, whose work is 90 percent in the field. Those commercial engineers are, in effect, the "Shock Troops" of the squad. With the extreme need that the hard-pressed purchasing agent has for authentic technical information, expert advise, and practical service, the commercial engineer representing the manufacturer is probably deservedly measured as the "spearhead" of any "Paratroop" squad on a project where technical problems are involved. (Wholesalers miss out on many jobs because they do not include the manufacturer's sales engineer in their squad.)

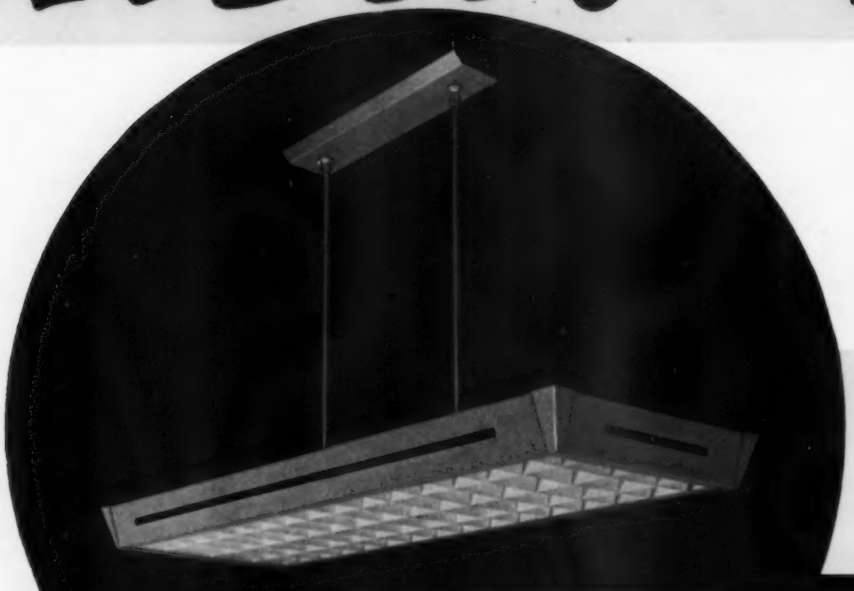
Behind the scenes, but considered available for immediate service, is the manufacturer's design engineer. In the "Paratroop" technique of selling, he may be called upon to make changes in a model to suit the particular requirements of an important prospect right at the "battle-front," in which case he, too, becomes temporarily a part of the field squad.

Finally the manufacturer's production engineer or the factory manager must often come into the sales picture as a part of this new "Paratroop" type of selling. He is more or less the commissary department, the supply line, the arsenal, or whatever you care to call him. But regardless of what we name him, his contribution is a substantial one. In fact, our factory manager often goes out into the field as a part of the "Paratroop" squad. He and the customer's purchasing agent generally talk the same language. The factory manager can give the purchasing agent on-the-spot delivery dates; can tell him what can or cannot be done about any special feature requirements that have to be worked into the manufacturing specifications. On these subjects, he is listened to more respectfully than any other member of the "Paratroop" unit.

The five "divisions" I have mentioned make up the personnel of the "Paratroop" mobile units which our company is employing continually to hit pre-determined objectives. The individuals, such as salesmen and commercial engineers, may change; but the nucleus of the group stands ready to go into swift action, no matter where the prospective buyer may be located. Each knows his part and is well-equipped to perform it.

Modified where necessary to meet the particular needs of a specific organization, the "Paratroop" plan of war-time selling should bring very satisfactory results in the wholesaling field.

NEW!...1943

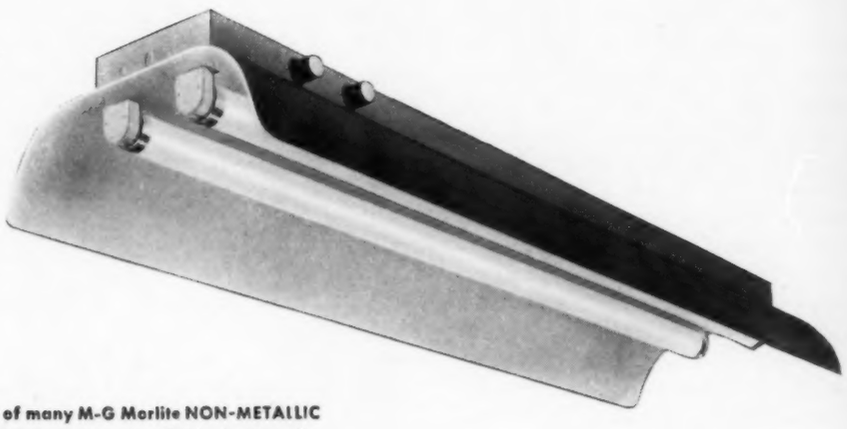


Two of the many MARTIN-GIBSON fixture types included in this catalog.

The PANELITE—

Compact, clean-lined office and drafting room unit providing extraordinary lighting efficiency with either louvre or glass (interchangeable) diffusing panel... No translucent sides or ends to cause "eye level" glare in large-room installations.

Union fabricated, wired and labeled by members of the I. B. E. W., A. F. of L.



One of many M-G Morlite NON-METALLIC Reflector units — available in sizes for 2-100w, 2-40w and 3-40w lamps and for individual or continuous row installation. M-G Morlite reflectors feature approximately 40% less weight, 10% higher reflection factor, absorption of heavier chance blows without damage.

THE MARTIN

DETROIT

999 Harpe

CATALOG

A FEW PROMINENT USERS OF MARTIN-GIBSON OFFICE AND INDUSTRIAL LIGHTING EQUIPMENT

Buick Aircraft Engine Plants
Thompson Aircraft Products Company
Ford Tank Plant
Fisher Bomber Plant
U. S. Army Air Corps
Bendix Aviation Corporation (8 Cities)
Diesel Engine Div., General Motors Corp.
Scintilla Magneto Corporation
Warner & Swasey Company
General Motors Building, Detroit
Pollak, Inc.
American Steel Casting Company
Quimby Pump Company
Pratt & Whitney Aircraft
Curtis Wright Corporation
American Locomotive Company
United Aircraft Corporation
Packard Motor Car Company
Haynes Stellite Corporation
Bohn Aluminum & Brass Corporation
Timken-Detroit Axle Company
Chrysler Corporation
Oldsmobile Div., General Motors Corp.

ELECTRICAL WHOLESALERS

Write or wire for full particulars of profitable Martin-Gibson Wholesaler plan.

-GIBSON CO.

rpe Avenue

MICHIGAN

By J. H. Aveling

Light on Blackouts—
A Primer for Wholesalers

When an entirely new market develops, come questions as to how good it is, who to see, what and where to sell. Now some of those answers emerge about the blackout equipment market which sprang into being less than a year ago and about the wholesaler's place in it.

THE place of the electrical wholesaler in selling blackout equipment becomes more and more clearly defined as techniques are worked out and products are approved by government authorities.

Out of the barrage of new products for home and industry that bombarded wholesalers and dealers when the word "blackout" first became a part of American life many have disappeared and those remaining are settling down into a more ordered array. It has become steadily more evident that there is good business to be had, with much of the sales of approved or acceptable blackout equipment passing through the hands of electrical wholesalers who are willing to go out after this war-made *plus* business.

Compliance with current blackout regulations, which is already compulsory in most of our coastal areas, created business in several directions.

For instance, now that it is generally accepted that utility circuits must remain energized during a blackout, localized controls of power and light must be set up. And the need for almost instantaneous local control dumps a problem straight into the laps of those responsible for lighting in factories, offices, industrial buildings and homes.

With that problem bothering their customers, alert wholesalers will find many new opportunities to boost their sales totals. Of less interest to them, saleswise, are controls for street lighting, traffic lights, or lighting for highway movement, although considerable fringe business generated in those channels may readily be secured.

Because industrials doing war business are in a position to demand priority service, the wholesaler will find them far ahead of the commercial or residential market in the size and importance of their bid for blackout equipment.

And don't think that there isn't, and won't be, a strong bid from industrial quarters for the right equipment. The problem of how, on an instant's warning, to wipe a lighted factory off the night landscape without also wiping out an important amount of essential industrial production has contributed to many a managerial war-time headache.

For until ultra-modern designs and the war-shadow speeded construction of windowless, artificially lighted, air conditioned buildings, the most modern factory layouts called for a maximum of window area, with daylight as a major source of illumination.

Those large-windowed daylight factories now must black out.

Obviously it would be difficult, if not impossible, for them to shade doors and windows at night only, and some of them have solved the problem by obscuring doors and windows permanently and switching to complete dependence on artificial illumination. The quantities of wire, wiring materials and lighting units involved would add up to an order that no wholesaler's salesman could sneeze at.

Even in cases where a blackout can be handled by temporarily suspending plant operation, the problem of vacating personnel or getting them to shelters without undue hazard remains, as well as that of providing means whereby certain types of key machines can be kept in operation.

Dimout regulations now have darkened Times Square's famous White Way. In a blackout, even essential lights must not show.

They'll need light to keep working during a blackout, yet even one of these many fluorescents would illuminate the broad windows of this factory for enemy air men. (Curtis photo)

When a blackout comes, every window in this modern factory is a problem to the plant defense coordinator. He'll be looking for good blackout equipment. (Sylvania photo)

Some engineers consider it desirable to set up an auxiliary emergency circuit which will provide the desired low-level lighting. Should an auxiliary circuit be out of the question, the panelboard may be rebuilt so that several circuits can be quickly put in series with each other, dropping voltage and consequent light output of lamps. Another method involves use of a 20 or 25 volt transformer and a means of throwing the panelboard over to this supply. Also possible, is the provision for opening the main switch on the panelboard and shunting a resistance across it, for which purpose cast iron resistors capable of disposing of a large amount of energy have been mentioned as particularly suitable. And all these changes involve the sale of some kind of electrical materials.

Along with the problem of reducing light levels, go other problems of the blackout or air raid. There will be need of air raid sirens and signalling devices; there will be demand for public address systems and for additional intercommunication equipment; there will be call for "electric eye" control equipment; there will be use for specially designed ventilation equipment in plants which propose to black out by closing up doors and windows.

With the Pacific Coast and Eastern Seaboard serving as a laboratory for products and techniques, wholesalers will find that industrial plants throughout the country are thinking in terms of possible blackouts, and they are looking for the right kind of equipment, more deliberately than can coastal plants that have already received their instructions.

The protective organization of a plant set-up to meet blackout and air raid emergencies is usually under the direction of the plant defense coordinator. It falls into four logical divisions—police, maintenance services, fire and medical. These men will need electrical materials in order to do a good job, and with the responsibility for plant blackout on their hands, they will put pressure in the right places to see that they get what they need.

The police chief is responsible for policing activities, for the work of air raid wardens, etc. It is up to him to see that all lights are extinguished during a blackout, yet that the workers are evacuated to shelters with due precautions for their care and that of machines. He is interested in public address systems and anything that helps him to do that job, although, for the practical execution of what safeguards he feels he needs, he may wish to call in the engineering chief.

It is certain that a wholesaler's salesman should be sure to contact the chief or whichever person has been put in charge of Air Raid Precaution activities in each plant.

Maintenance services are the function of the engineering chief. It is up to him to see that such safeguards as the other departments need are worked out in practical terms. He will be concerned with working out arrangements for proper lighting, ventilation, and control of illumination during a blackout.

He needs not only specific equipment for blackout warning, lighting and ventilation (to mention a few) he also needs the wherewithal to set up auxiliary circuits which would function in case existing facilities are destroyed during an air raid.

He will want duplicate power and communication lines, switchboards, telephones in shelters and first aid stations. It is up to him to see that arrangements are made for some auxiliary source of power to carry on work if supplies of electricity from public or private sources are interrupted.

While the fire chief is a less direct contact for the wholesaler's salesman, his bid for adequate intercommunicating equipment between firewatcher posts, fire squads and headquarters will carry considerable force behind it. He is probably more aware than anyone else of the importance of making available instantaneous service from the right equipment because he knows from experience what a wide margin there is between the results when action is taken instantly and when it is delayed.

With these men, and with industrials in many parts of the country, the blackout is a problem that is pressing for immediate solution. The wholesaler's salesman who makes himself a specialist in ways of helping to solve that problem will be taking advantage of war-made *plus* business, as well as building confidence and good will for the future.

Again Westinghouse Reduces Prices!

This is the kind of news you don't expect to hear today. And it's good news for every user of fluorescent lamps. Prices have been reduced 12% to 17%, giving you even lower lighting costs, even more light for your money. Here again is proof of Westinghouse leadership in lamp design, research and manufacturing know-how. But lowered prices are not all. Quality has been substantially increased too. Today Westinghouse Mazda lamps give more light, last longer and cost less.

It's Westinghouse for

LITE FLUORESCENT

O STARTER)

Lighting for More Production

Here is fluorescent equipment you can sell and that you can get delivery on, because it recognizes today's restrictions on critical materials—and anticipates possible further restrictions by W. P. B.

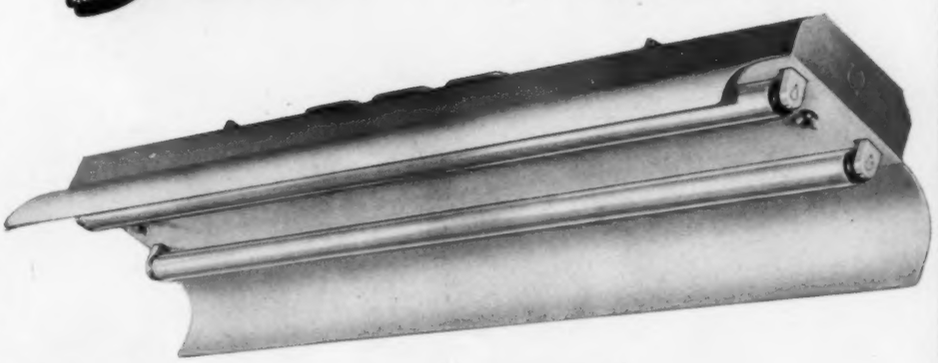
Spero DUR-O-LITE design meets fully every demand for simplified, easily installed, easily maintained units for war plant use. It meets design specifications of The Bureau of Standards. It goes up quickly, delivers high grade lighting that stays efficient with least maintenance cost and labor.

Wiring and auxiliaries are mounted in raceway above the reflector . . . reflector can be dropped easily for cleaning. Standard design is for two 40-watt, 110-125 volt A. C.

Wire, phone or write us now for full details and prices. Cash in now on this highly efficient and *now* available DUR-O-LITE metal-saving fluorescent reflector plus INSTA-LITE performance.

DUR-O-LITE

plus INSTA-LITE



SPERO...5 LINES of Products from one dependable source

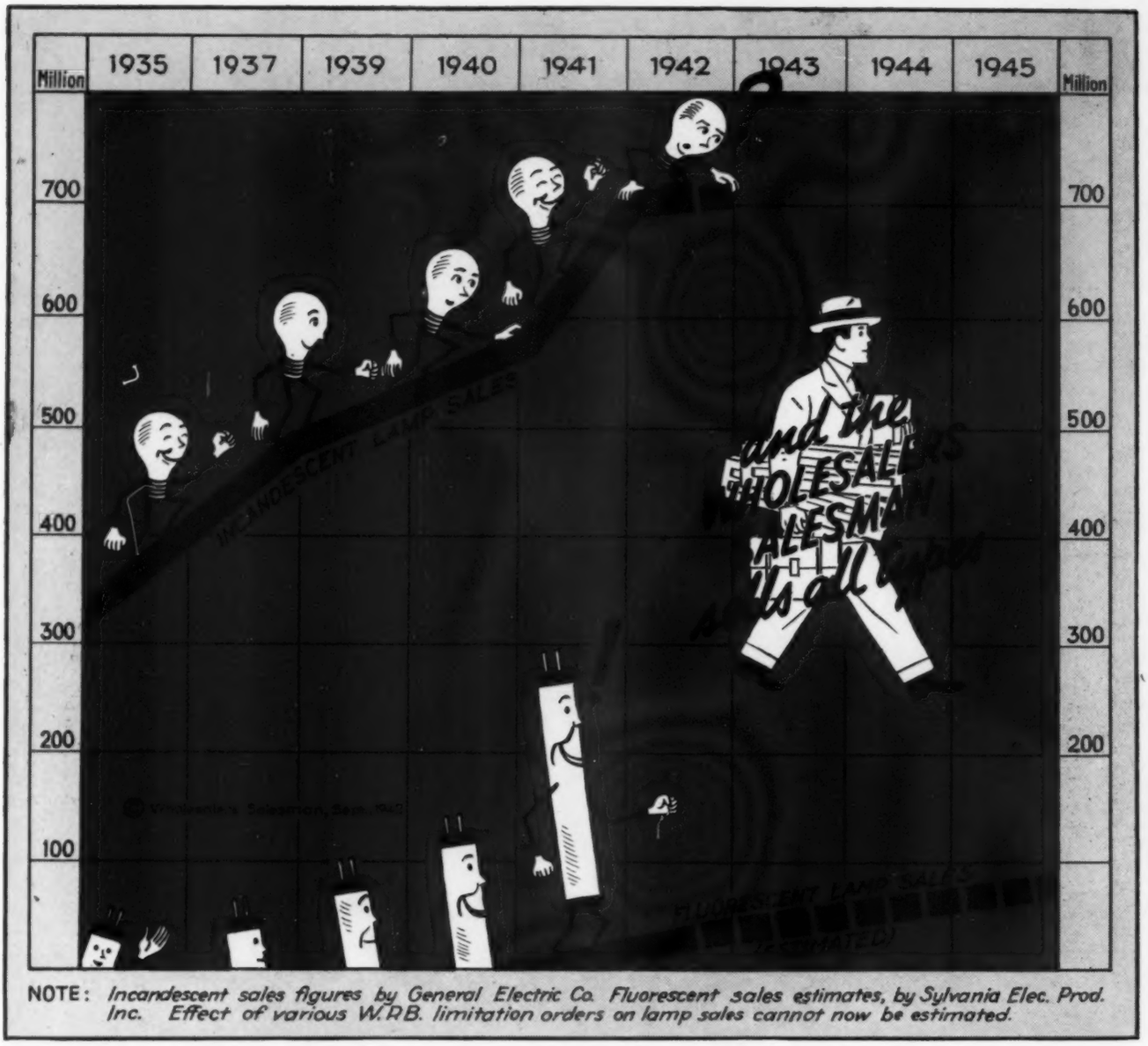
Fluorescent Fixtures • Incandescent Reflectors • Floodlites • Vapor Proof Units • Electrical Construction Materials

Thirty years experience . . . and a big modern factory with 70,000 square feet of floor space . . . an established name and reputation for high quality products are important considerations under today's conditions. You don't have to gamble when you specify SPERO. SPERO products are distributed only through electrical wholesalers.

TRIC CORPORATION

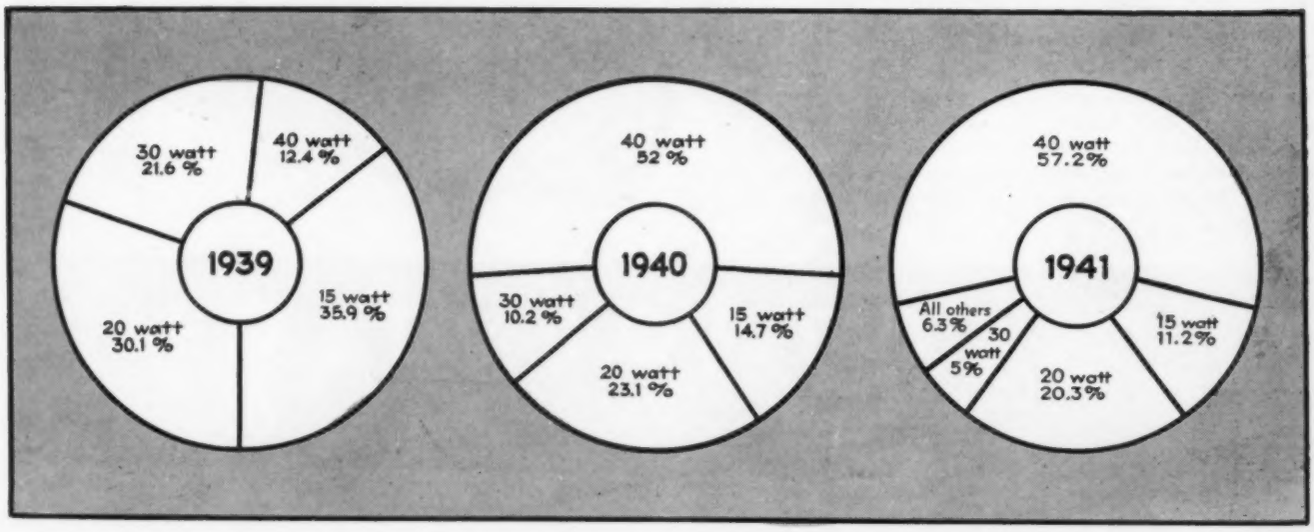
★ CLEVELAND, OHIO

To-day's Trend in Lamp Sales

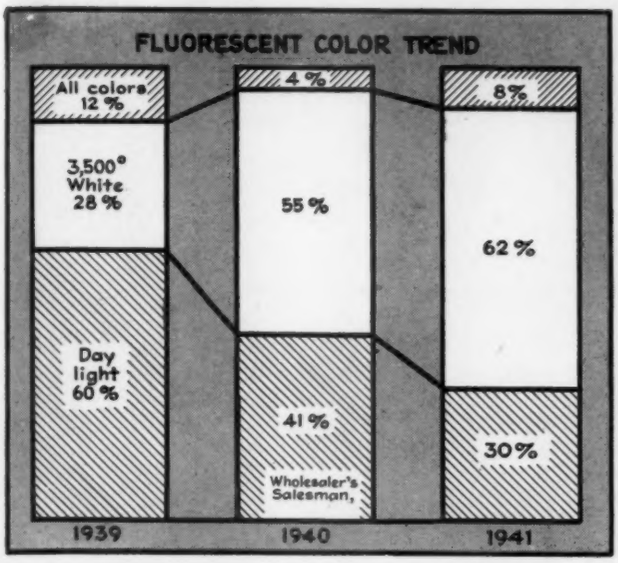


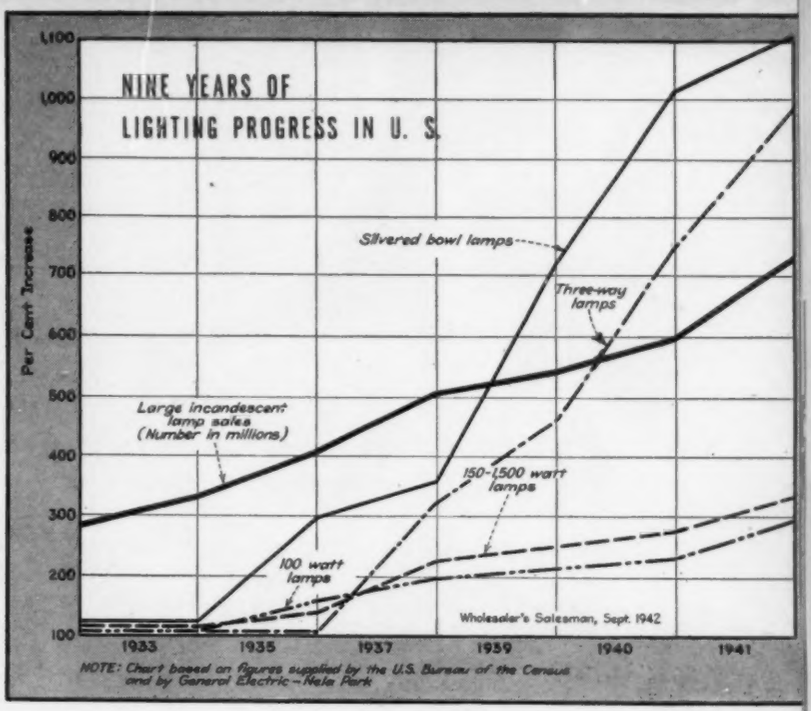
NOTE: *Incandescent sales figures by General Electric Co. Fluorescent sales estimates, by Sylvania Elec. Prod. Inc. Effect of various W.P.B. limitation orders on lamp sales cannot now be estimated.*

THE TREND TOWARD FLUORESCENT "FORTIES" CONTINUES

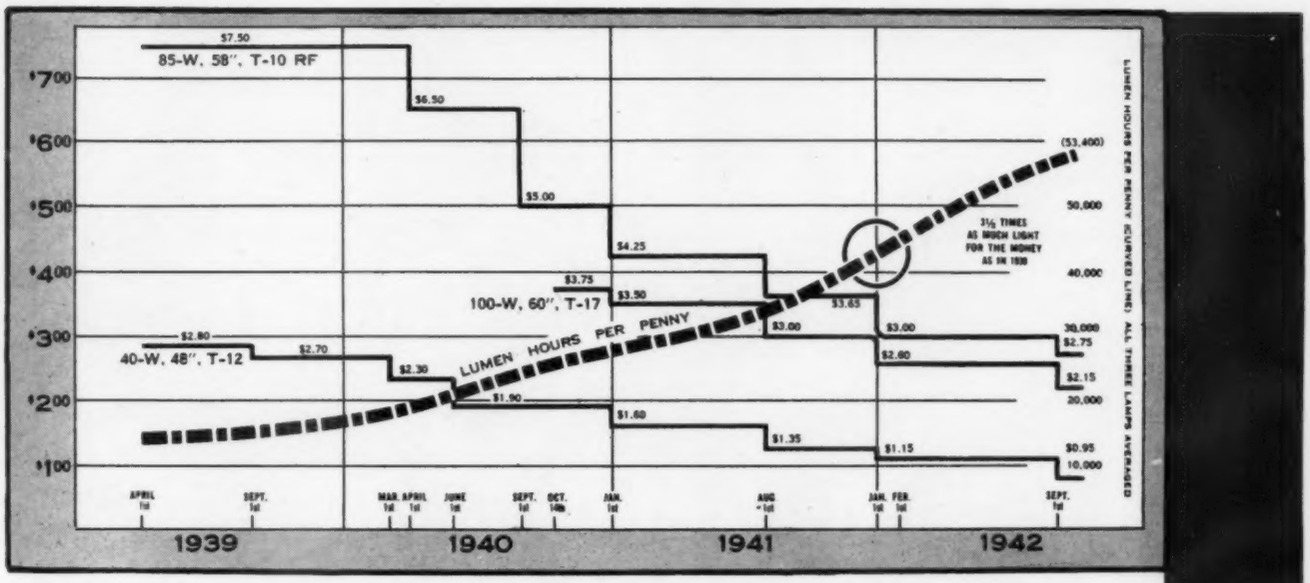


Sales Figures and data on incandescent lamps and figures on trends in fluorescent lamp sales supplied by General Electric Co., Nela Park. Forecasts on sales of fluorescent lamp sales supplied by Sylvania Electric Products, Inc.

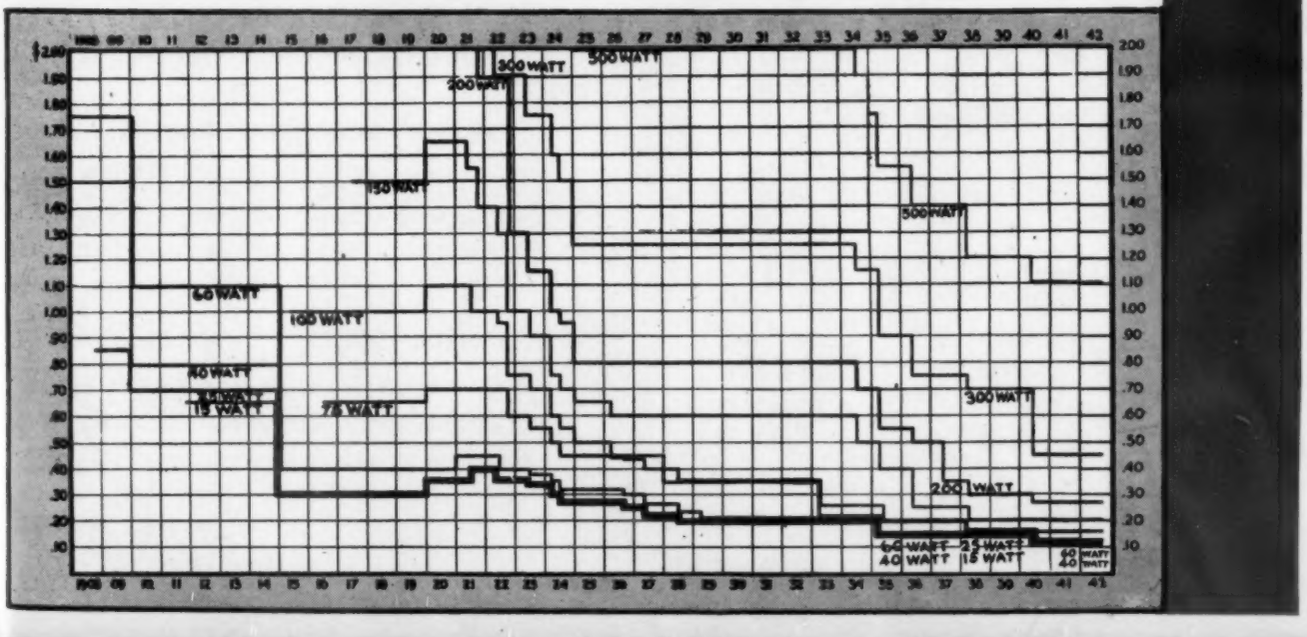




PRICE HISTORY OF FLUORESCENT LIGHT To September 1, 1942



PRICE HISTORY OF INCANDESCENT LAMPS



The name is new... th

ON July 30, the Hygrade Sylvania Corporation became Sylvania Electric Products Inc.

Needless to say, the change is one in name only.

There is no change in the high quality of our products, no turning from our purpose to make the finest lighting and radio equipment our skill and experience can create.

And that means we will continue to provide you with incandescent lamps and with complete fluorescent units that give you an edge on competition in every single element:

Fluorescent Lamps that give uniformly better light over longer periods.

Fixtures that are easier to handle, more economical to maintain.

Starters that furnish positive, trouble-free starting and re-starting.

Sockets that are sturdier, longer-lasting.

Largely as a matter of conserving stocks of cartons and scarce packaging materials, changes in the trade labels of these products will be made gradually. Eventually, however, all products will take the name *Sylvania.*

Under any name they represent your best bet for gaining customer satisfaction and good will—whether in servicing incandescent customers, fluorescent systems now in use, or in installing new ones where priority ratings permit.

If you're not already handling this mighty profitable line, why not write today for full details?

No Weak Spots in this Story

SYLVANIA* FLUORESCENT *LAMPS* are five ways superior. Smoother coating texture; more light; more even in color; longer life; "bright to the last inch." Check these advantages with any user.

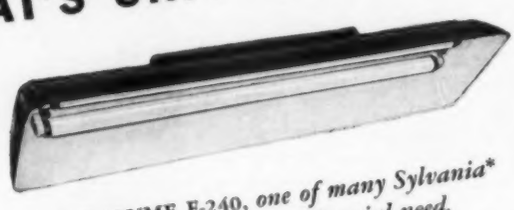
SYLVANIA* MIRALUME *FIXTURES* are correctly engineered; easy to install; easily demountable for thorough cleaning; the best buy on the market.

SYLVANIA* MIRASTAT *STARTERS* insure positive starting and re-starting through accurately-timed pre-heating of cathodes. They conserve electrode emission material, prolong lamp life.

SYLVANIA* *SOCKETS* are sturdier, longer-lasting. Their "staked-in" screw construction simplifies installation. Special device permits lamps to slide in easily, locks them in so they can't fall out.

**Formerly "Hygrade"*

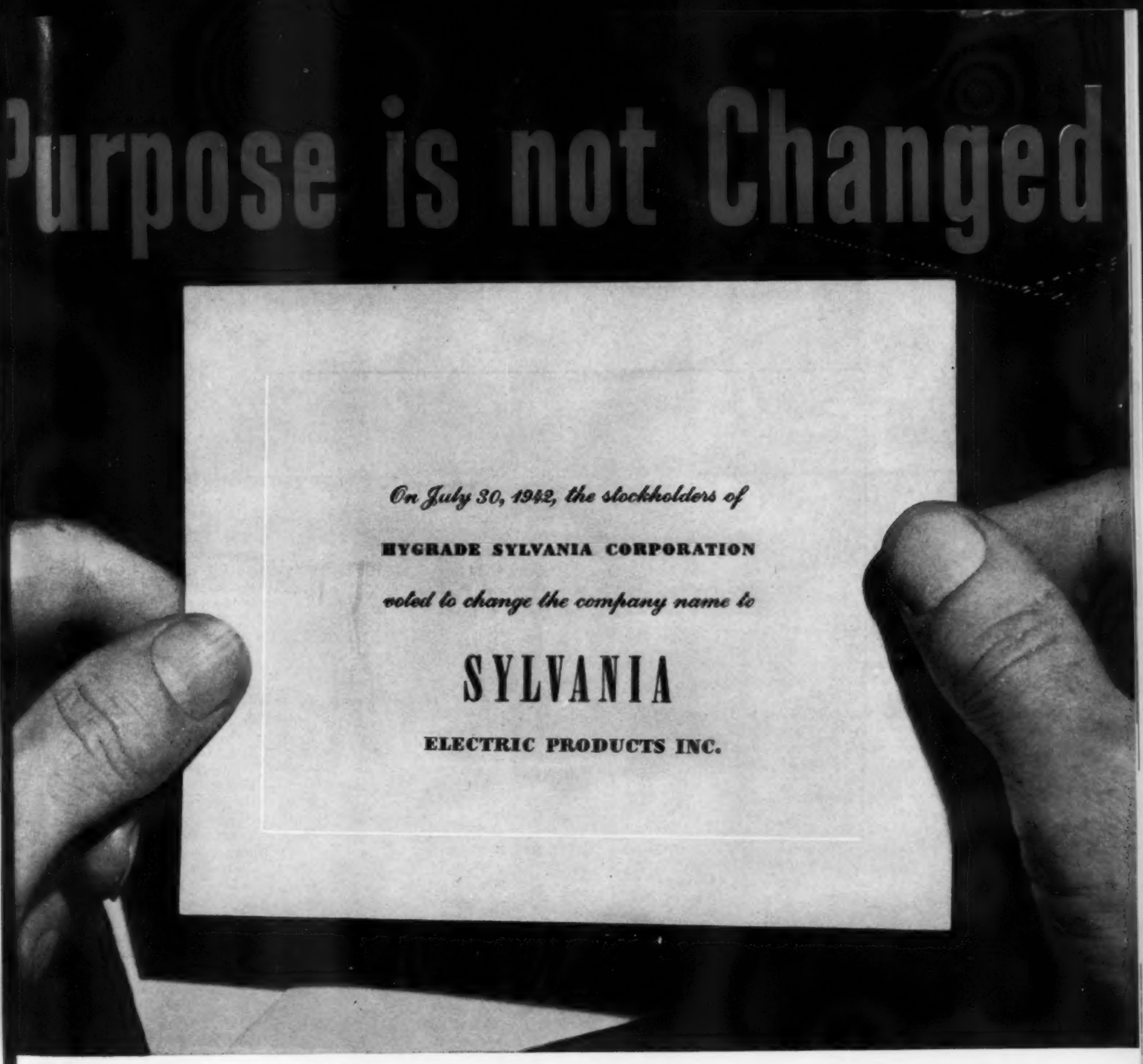
PACKAGED LIGHTING THAT'S UNIT ENGINEERED



MIRALUME F-240, *one of many Sylvania* fixtures for every industrial need.*

Good lamps are the heart of good fluorescent lighting. And good SYLVANIA* lamps are at their best in this Packaged Lighting that is *engineered as a unit.* Lamp, fixture, starter and ballast are designed and built to *work together,* all held to uniformly high standards—there are no laggards to limit the performance of any part.

Purpose is not Changed


On July 30, 1942, the stockholders of
HYGRADE SYLVANIA CORPORATION
voted to change the company name to
SYLVANIA
ELECTRIC PRODUCTS INC.

OVER 100 PATENTS PROTECT SYLVANIA* LIGHTING PRODUCTS!

"MERCURY BOMB" HAS BEEN GRANTED PATENT No. 2,283,189

Extraordinary lighting efficiencies are obtained in Sylvania Fluorescent Lamps by tuning the ultra-violet energy to the 2537 Angstrom Units wave length effective in causing the porous film (Patent No. 2,096,693) to generate light as shown in Sylvania*-controlled Patent No. 2,126,787. Sylvania* products are exclusively protected by a large number of other patents, including No. 2,201,817 and No. 1,982,821.*

Sylvania fixtures incorporate the high power factor, low stroboscopic circuit described in patent 2,195,114 and the quick, trouble-free starting described in patent 2,195,115. Practical design features that meet the specific needs of industrial and commercial light users are described in patents D-120,563, D-122,145, D-122,236, and D-122,903.*

*Formerly "Hygrade"

SYLVANIA

ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation

Salem, Mass.

BROADACRES...

J. F. O'Brien

By J. F. O'Brien*

BROADACRES Farm was conceived as a medium for the scientific production of milk and is dedicated to the production of the best bottle of milk that can be produced. Thus a cap reading, "Jersey Creamline Raw Milk—Produced and Bottled at Broadacres Farm," on a bottle of milk means that the consumer will enjoy Finer Flavor, Greater Food Value, More Energy Units, and greater purity and freedom from contamination. Constant tests in the Broadacres Laboratory and rigid check tests by an outside laboratory weekly is a day-by-day check that Broadacres Milk meets the unusually high standards set for it.

Such a program must be based on many elements including:

Herd and Herd Hygiene
Herd Feeding
Milk Handling, Storage and Processing
Utensil Sterilization
Bottle Washing and Sterilization.

All of these elements are important and failure in any one of them means total failure of the whole program, and in every element ultra-violet light plays a dramatic and vitally important part—so important that the high standards set could not be consistently met and maintained day in and day out without it.

This is to be a story of the part that ultra-violet plays, but that part is so important and so interrelated to all the elements involved that some background must be included for perspective. It will be noted that the description on the cap given above was Jersey Creamline RAW milk, in the production of which sanitation and purity of product is of prime importance because the bacteria count must be kept low and coliform and hemolytic organism must be rigidly controlled to meet standards set by various state and local health officers.

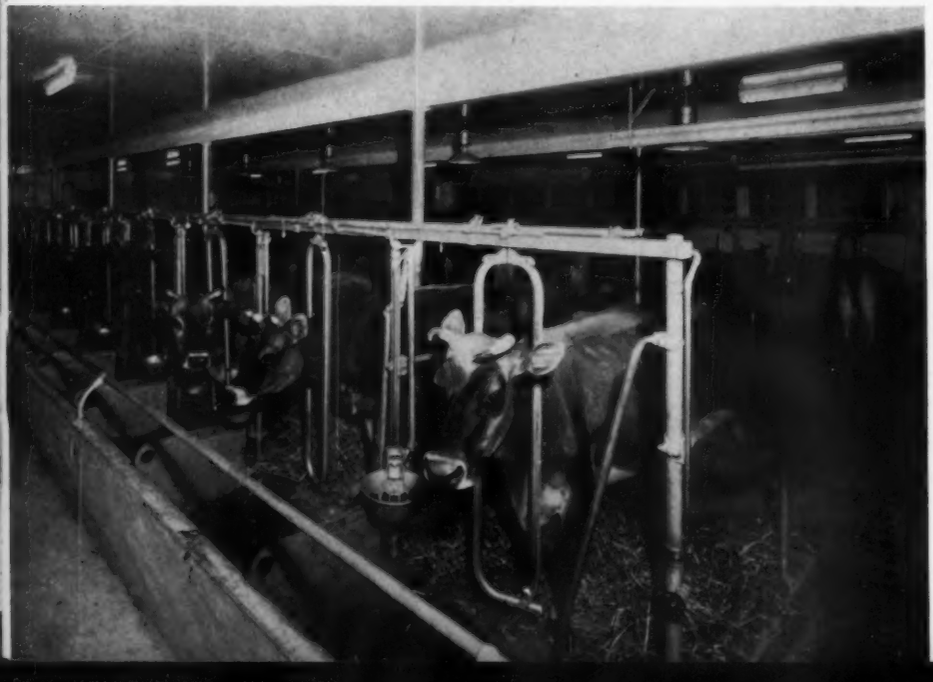
High quality in milk begins with the herd and at Broadacres it is a herd of purebred registered Jerseys concededly producers of the world's finest, richest milk.

Certainly if the record of such a herd, or their sheer beauty did not inspire the best possible program of herd hygiene, the investment they represent would most certainly do so. A herd hygiene program is based on feeding, housing, sanitation and regulatory control of disease.

The story of feeding at Broadacres is a long and interesting one designed to maintain uniform color, flavor and butterfat content throughout the year. Certain silos are filled with corn silage and others are reserved for grasses, grains and legumes, including barley, wheat, soy beans, alfalfa, clover, etc. These are filled in layers in such a manner that the various layers will be ready for feeding in certain months throughout late fall, winter and early spring to exactly meet the changing requirements for proteins, carbohydrates, fats, minerals, calcium and phosphorus, and vitamins A and D. The Vitamin B Complex and the Vitamin C Complex are synthesized in the rumen of the cow. Feeding alternately from these silos (corn and grasses, etc.) means balanced diet, varied diet, ability to meet changing nutritional requirements and when combined properly with carefully worked out formulas for dry feed and good quality hay means uniform color, flavor and butterfat in the bottle—a quality greatly appreciated by the consumer.

In our planning, Vitamin D, essential for metabolism of calcium and phosphorus and the general health of the animal, is planned for in the feeding program. But we know that in the health of animals, as in the case of people, it is also directly affected by the proportion of ultra-violet in the sun which reaches the earth. The Vitamin D available for health decreases

Broadacres' cow barns are completely equipped with sun lamps and bactericidals in addition to good lighting.



* *President, Pierce Laboratory, Inc.*

S...A Symbol of New Markets For Sun Lamps, Bactericidals, Fluorescents

This story of Broadacres points the way to unlimited new sales opportunities on dairy farms and in city dairies—lets the electrical wholesaler "in on the ground floor" of a new field.

during the winter months and then the animals need extra ultra-violet, particularly in the late winter and early spring months when the healthful energy stored during the summer months of bright sunshine has been dissipated. We meet this deficiency by generous exposures to S.4 Sunlamps, two hours in the morning and two hours in the evening. This results in a higher general standard of health, with consequent better appetite, which in turn means increased production of higher quality milk. Thus our first use of ultra-violet is for a very definite purpose and produces very definite practical results.

Housing is the next main element to consider. That is a question of environment which means careful planning of the physical plant and everlasting attention to good housekeeping and cleanliness. Broadacres barns are planned with continuous bands of windows running completely around the barn for daytime light and sunshine. But artificial lighting is important, too, both for working and as a prerequisite to good housekeeping and cleanliness. Fluorescent lamps in simple fixtures provide general lighting in the barn, the weighing and aeration room, the utensil washing room, the utensil storage room, and the creamery, where milk is bottled at night.

The third use of light and the second of ultra-violet is in the milk handling, storage and processing, utensil sterilization, and bottle washing and sterilization processes. Here Broadacres places heavy dependence on bactericidal lamps. These lamps provide various zones of protection so that nowhere in the handling process is milk ever exposed except under direct radiation from bactericidal lamps. Thus they operate on every step in the handling, processing, and bottling of the milk. By constant study of mechanical and space requirements milk is handled in confined areas in which the air is kept germ free. Thus by express design, bactericidal lamps are located in all areas through which milk is transported from the time it leaves the udder to the time it is in the bottle and capped. Even the bottling machine is fitted with a reflector and bactericidal lamp. Milk cans are first sterilized and then a bactericidal can sterilizer maintains their cleanliness. The same lamps are used on all other utensils maintaining a high degree of sterility, while the unit over the conveyor belt on the bottling machine maintains the bottles in a steril condition before filling and during the filling process.

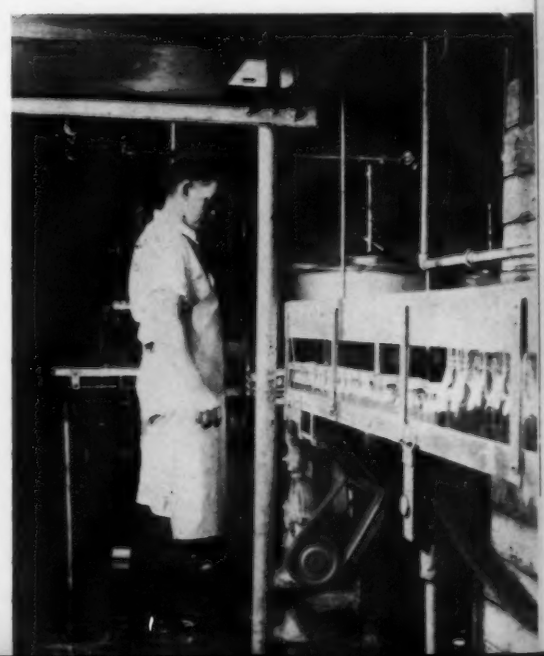
Probably the quickest way to see the part light plays in the Broadacres planning is to take a tour through the milking barn on a cold blustery winter day. Entrance is through a small reception foyer where the visitor's shoes are automatically and almost unconsciously disinfected so that no germs are unwittingly tracked into the barn. To the left and right are entrance ways to silage feed rooms. Straight ahead is a wide door containing a large plate glass window through which the first glimpse of the barn is had. The first reaction is one of pleasant cleanliness in the gleaming white foyer cheerfully lighted by fluorescent lamps.

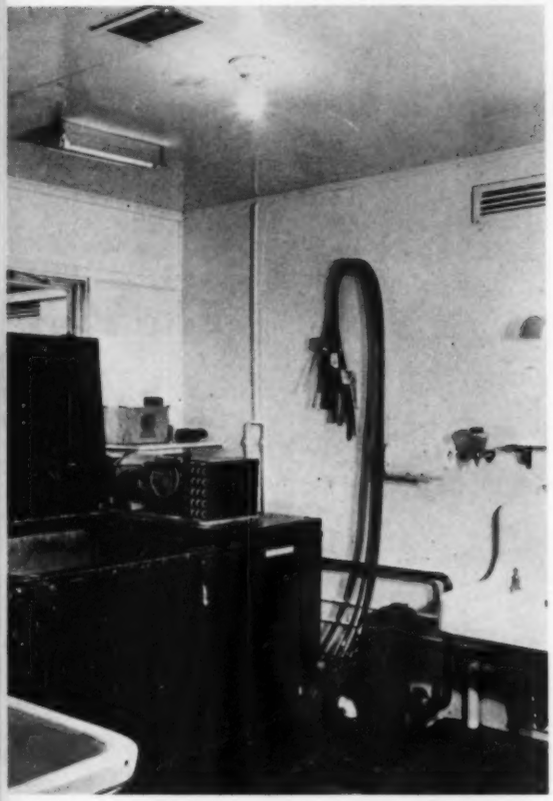
As the visitor passes into the barn proper, further pleasant surprises are in store. First the sheer beauty of the Broadacres Purebred Registered herd is appealing. And although the barn is filled with cows there is no odor. The air is as fresh and clean as though in passing through the door the visitor had suddenly passed from a blustery winter day into the bright sunlight of a June morning. The visitor soon learns that the barn is air-conditioned with temperature and humidity automatically controlled.

Down the center mounted from the ceiling at ten-foot intervals is a row of specially designed S.4 sunlamps—bringing sunshine and Vitamin D into the barn when it is wanted—the modern way of changing winter into summer and of furnishing the animals with the equivalent of summer sunshine. For greater concentration individual sunlamp units are placed over each maternity pen and two units over each calf pen designed for five animals. In between each sunlamp and also running the length of each side of the room are fluorescent lamps in simple fixtures, softening the harshness of the ultra-violet light and providing 20 f.c. of light for working.

During bright daylight hours no light is needed in the barn as a continuous row of windows around three sides of the

Milk cans are freed from bacteria before use—bottling is done under a continuous protective blanket of rays from bactericidal lamps.





Milking equipment and low-temperature coolers are kept "wrapped" in germ-killing rays.

SAMPLE TESTS BY MONTHS

1941	S.A.P.M. Bacteria Per CC	S.D.M.M. Bacteria Per CC	COLIFORM GROUP COUNT "A. P. H. A." Method Presumptive	Equivalent	Confirmatory	"Certified" Method
August	2,300	42,000	2/1	4 per 5 M1	Positive	0.5
Sept.	2,100	38,000	0/5	0 per 25 M1	Not run	0
Oct.	4,000	28,000	5/1	1 per M1	Positive	1.0
Nov.	4,700	38,000	4/0.1	8 per M1	Positive	9
Dec.	3,300	39,000	2/0.1	4 per 1 M1	Positive	4.5
1942						
January	4,000	36,000	0/5	0 per 25 M1	Not run	0
February	4,500	46,000	5/1	1 per M1	Positive	1
March	2,000	36,000	1/0.1	2 per 1 M1	Positive	0.5
April	6,200	40,000	1/5	1 per 25 M1	Positive	0
May	4,200	39,000	1/5	1 per 25 M1	Positive	0
June	3,400	49,000	5/1	1 per 1 M1	Positive	1
July	4,500	60,000	4/0.1	8 per 1 M1	Positive	7

room, in combination with the pure white gloss enameled walls and ceiling, permits light and sunshine to seep into every nook and cranny and make the interior practically as light as outdoors.

The reflectors on the sunlamps are so designed and are mounted at such a height as to flood the barn with sunlight to a point on each wall 18 in. from the ground. Thus, with the exception of the head and forepart each animal is completely irradiated by two sunlamps. The rays falling directly on the concrete alleyway and litter gutters have a mild germicidal effect. Between the barn proper and the entrance foyer and silage rooms are the dry feed rooms where feed is weighed for each animal for every feeding and the herdsman's office, where all feeding, testing and production records are kept for each animal in the herd. Fluorescent lighting combined with local lighting provides adequate light for safe seeing for these tasks.

Passing from the barn we pass into a building running at right angles to the milking barn proper. We pass the utensil storage and weighing and aerating room, and enter the utensil sterilizing room. Preparations are under way for milking and directly over the door in a specially designed unit is a germicidal lamp, reflecting its rays in such a way that workers passing into this room are bathed in germicidal ultra-violet light. Over the door on the opposite side of the room leading into the creamery is a similar unit. These two units contribute to the general sterilization of the air in the room, but their primary purpose is to drench an individual entering these rooms with a concentrated flood of germicidal ultra-violet light. For general sterilization another germicidal unit is mounted on the ceiling in such a position that it also serves a dual purpose, for every time the lid is lifted on the wet storage electric refrigerator, the whole interior is bathed in its rays. Thirty minutes before milking a master switch is thrown turning on all these units so that the air in the room will be germ free.

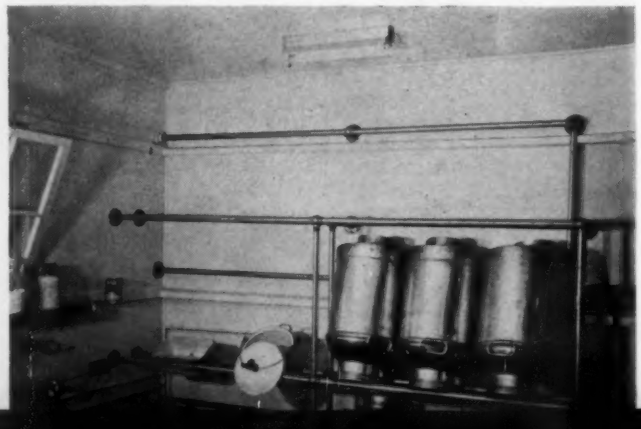
The stainless steel milking machines have had their sterilizing bath and have been assembled, but the dairyman is inserting a special unit containing a small germicidal lamp and a stainless steel reflector which completely floods the interior with concentrated germicidal ultra-violet rays. Each 40 quart can receives similar treatment with a similar unit built into a special chromium cover which projects the light into the can and seals off the top—with the germicidal lamp projecting partially below the throat of the can. Thus every part of the interior is effectively irradiated and the utensils are now ready for use. During the process the attendants have been washing the cows with a sterile solution and milking operations are ready to start.

The sterile milking unit is now attached to the sterilized udder—each cow being milked into a separately sterilized unit. As milking of each cow is completed the milking unit is taken, unbroken, out of the barn into the weighing room. Two germicidal units, turned on 45 minutes in advance, assures safe sterile air. At this point the milker is broken open, which is the first contact of the milk with air. It is poured into a sterile weighing can and placed on the scale directly over which is a germicidal unit, to the direct rays of which the milk is exposed in sterile air, during weighing and recording for each animal. The milk is then dumped into the aerator, over the tank of which is a germicidal unit focused on the milk. Thus into sterile, germ-free atmosphere, always under concentrated germicidal rays, within three minutes each animal's milk is weighed, recorded, aerated and reduced to 42° temperature and run into a sealed sterile can. A transparent plastic cover permits the dairyman to see into the can at all times. The contact parts of the milker are again sterilized and this operation is repeated for each producer. Thus the world's richest milk is ready for bottling.

The bottling process usually takes place right after midnight so that it can receive the next day's dating; hence, good general lighting is important and once again fluorescent lamps are the source. Prior to actual bottling the germicidal units have been turned on to prepare the

"Abandon hope, all germs who enter here," says the germ-killing lamps above all Broadacre doors.

Milk cans are washed, sterilized, stored, under the ever penetrating rays of bactericidal lamps.



room and equipment. Three units form this battery, one on the ceiling directly over the bowl on the bottling machine, one on the ceiling directly over the utensil and parts storage rack, and one on a special hood over the conveyor on the bottler. The reflector of this unit projects the light inside the bottles and around the outside of the lip and neck before they are filled. Thus every step of the way ultra-violet plays an important part in protecting the purity of Broadacres Raw Milk—from the sun-lamps to maintain health to the germicidal lamps to protect purity. Many visitors who like to think of milk in the purest form for table or children feel that they can enjoy the whole full flavor of Broadacres Raw Jersey Creamline milk with full confidence in its wholesomeness and purity.

Perhaps the reader now wonders does the system work. The record shows that it does and here's the record—a sample reading—one of many tests each month —taken from past tests. It must be remembered that strict state and local health regulations prescribe that in raw milk the coliform count must be not more than 25 per M1 and the hemolytic organisms not more than 10 per M1. The record for a year appears at the top of the preceding page.

Occasionally we run into a higher than average count, as might be expected—but it is always caught by the thorough frequent system of tests, and the reason determined. Never has such a count been traced to failure of the ultra-violet process, but mostly to unsuspected and unapparent deterioration of rubber accessories that cannot be sterilized by available ultra-violet equipment. This occurs occasionally in spite of the fact that such parts are discarded automatically after less than half their recommended use.

6 MONTHS BLOOD AGAR PLATES

"Negative" to streptococci hemolytics
"Negative" to streptococci hemolytics
"Negative" to streptococci hemolytics
"Negative" to streptococci hemolytics
"Negative" to streptococci hemolytics
"Negative" to streptococci hemolytics

In 18 months but one "positive" test was recorded. This is good clean wholesome raw milk.

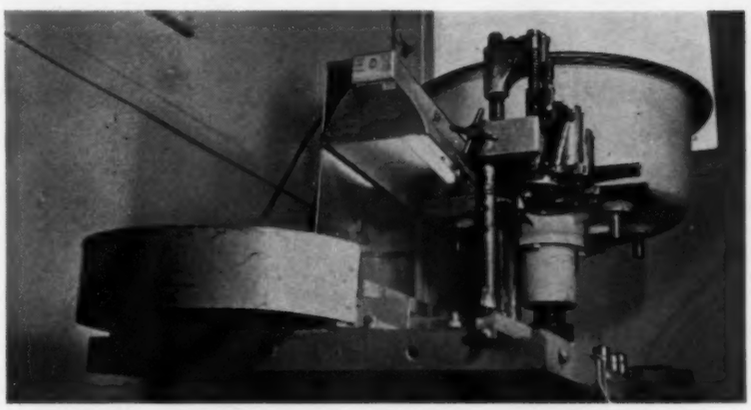
So much for ultra-violet in the production of Broadacres Jersey Creamline Raw Milk. But in spite of conditions under which it is produced, there are certain communities which do not permit the sale of raw milk. Consumers in these communities, however, want the extra quality and richness of Creamline milk and for them it must be pasteurized. A certain percentage of Broadacres milk falls in this class, and even here ultra-violet germicidal lamps continue to guard its purity and wholesomeness.

As soon as the milk to be pasteurized flows through the aerator into the can through the transparent plastic top, the can is sealed and delivered immediately to the creamery of Annandale Dairy Farms at Annandale, New Jersey. After pasteurization it is bottled in bottles carefully sterilized by germicidal lamps. Here bottles are placed in the usual bottle washing and sterilizing machine. As they emerge they are bathed in ultra-violet rays from a 48-in. germicidal unit immediately over the emergence point. They are then placed on a conveyor and start on a 50-foot journey to the bottling machine. They pass through a specially constructed tunnel of sterile air for the entire journey. This tunnel is a metal hood in which germicidal lamps are continuously mounted end to end. Reflectors direct the rays into and outside the bottles for sterilization. Transparent plastic sides of the tunnel assure a confined area of sterile atmosphere for the entire journey and also prevent any dust or foreign air-borne matter or organisms from contaminating the milk until it is capped, sealed and hooded. Perhaps a sample test taken at random will demonstrate the effectiveness of this safeguard. This random test was as follows: An empty quart bottle was taken from the conveyor and rinsed with sterile water and the rinsing plated. The bottle was found to contain 81 colonies per bottle by Agar plate method and 0 (zero) coliform organisms. Thus the bottle was not truly sterile, but in industry, bottles which contain less than 50 colonies are considered sterile for all practical purposes as used there.

One quart of milk is approximately 1,000 M1 so that in the case of this specific random test the 81 colonies reflected an increase of only 0.8 colonies per M1 of milk. This increase is without any practical significance. That the bottle was free of coliform organisms showed that the sterilization and protection accorded the bottle was very satisfactory.

Thus, raw or pasteurized ultra-violet protects the purity of Broadacres Jersey Creamline Milk every second and every foot of its journey from the udder to the consumer's table.

Boxed in by germ-killing rays that emanate from the ceiling units, this bottling unit has "plus" protection—a bactericidal lamp on guard under the hook while bottle is filled and sealed.



New! GLASS FIXTURE PARTS BY CORNING

Ideal for war housing

CONSERVE METAL. These new glass fixture parts use a minimum of critical materials. They provide practical and attractive fixtures for war housing.

ATTRACTIVE. The color blends well with any decorative scheme. These parts are light both in weight and appearance. Made of Ivex—a cream opal glass of high quality.

LOW COST. Corning fixture parts are made economically on automatic machines. This enables you to provide inexpensive fixtures that will be not only acceptable, but highly attractive.

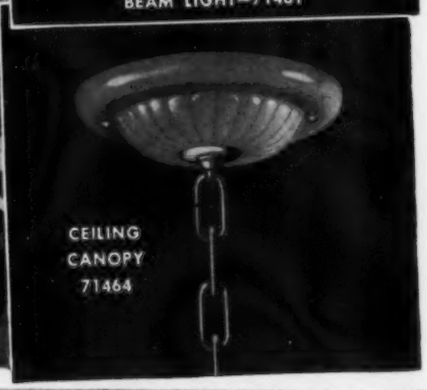
With these parts you can make good-looking fixtures for every room in the house. Specify Corning Ivex Fixture Parts in your next bid for war housing. Write us for further details. Macbeth-Evans Division, Corning Glass Works, Charleroi, Pennsylvania.

CEILING FIXTURE—71462-5

SHADE HOLDER—71462-6

GLOBE HOLDER—71468

BEAM LIGHT—71461



CEILING CANOPY 71464

CORNING *means* Research in Glass

Corning Lighting Glassware BRAND

VITAL FIRST LINES FOR INDUSTRIAL ELECTRICAL WHOLESALERS
fostoria SERVICE

Better Weapons for the WAR PRODUCTION FRONT

Better Baking and Drying with Near Infra-Red

INFRA-RED fostoria PARA-SPHERE

EQUIPMENT FOR BAKING, DRYING, PREHEATING AND DEHYDRATING

Alive to the urgency of war needs, industrial wholesalers are aggressively promoting production speed-up with modern time-saving, space-saving equipment. The amazingly advantageous Infra-red process is an outstanding example of successful accomplishment in this vital effort.

By this process, radiant energy generated by Infra-red lamps is directed by reflectors upon objects being processed where it converts into heat. This highly efficient method of direct heat application greatly speeds production output, reduces space needs and has low fuel cost. It is quickly and easily adaptable to "line operations" for baking, drying, preheating or dehydrating.

The approved line of Fostoria equipment and technical service, already utilized by hundreds of war plants, provides industrial wholesalers a foremost opportunity for volume sales today and after the war is won.

Better Seeing on the Job with Balanced Lighting

With production of war goods has come greatly increased demand on workers' eyes. Finer detail, closer tolerances, more severe inspection, and greater speed have made vital better tools for "seeing" on the job.

Fostoria balanced lighting has provided these better tools. By combination of localized lighting with general lighting, efficient balance is obtained of needed footcandles on the work area and proper background light. Workmen see quicker, accurately without tiring eyestrain.

In Fostoria Generalites and Fostoria Localites, industrial wholesalers have the equipment to most expertly increase war worker "seeing" efficiency. Thousands of war plants have demanded this better service and thousands more need it today.

BALANCED fostoria LIGHTING

GENERALITES
For Background Lighting

LOCALITES
For Light ON the Job

Request full information, now, on these two vital first lines for electrical wholesalers.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO

By James D. Hall*

Selling Infra-Red Heating For Industrial Applications

WHY IT'S EASY

To Sell Drying Lamps

They do it faster.
Initial costs are lower.
Maintenance costs are lower.
Flexible and easy to control.
They are safe and clean.
Occupy less space.
More economical to operate.
Equipment is portable.

THERE exists scarcely a single sizable industrial plant that isn't using heat in some of its processes and it will be an unusual plant if many of these heating jobs can't be done better, faster and more economically with radiant heat. Getting the name on "the dotted line" for radiant heat equipment frequently involves only the cultivation of an already-planted seed of interest into the full bloom of a profitable order. And it should be remembered that even the smaller installations require the use not only of lamps but also other equipment—conduit, cable, switches, etc.—the value of which often exceeds and frequently greatly exceeds that of the lamps.

The non-technical salesman, who does an all-around selling job for an electrical wholesaler, should not deceive himself into neglecting the possibilities of the business by thinking that it would take a heating specialist to sell such jobs. The solutions of many radiant heat problems are self-evident while the final requirements of others are determined from small-scale trial tests conducted by the user himself. Thus it may devolve upon the salesman only to arouse latent interest in the subject. Where necessary, local representatives of drying lamp and equipment manufacturers or the public utility usually are available to provide the prospective user with any required information in connection with the design and arrangement of equipment.

Many radiant heat drying jobs, due to their obvious simplicity, require no technical assistance and preferably this is the type of business, on which the wholesaler's salesman who is inexperienced in selling radiant heat applications, should concentrate. But first, he should assure himself that, despite a lot of misinformation to the contrary, there is nothing mysterious about drying lamps or the infra-red (radiant) heat which they generate.

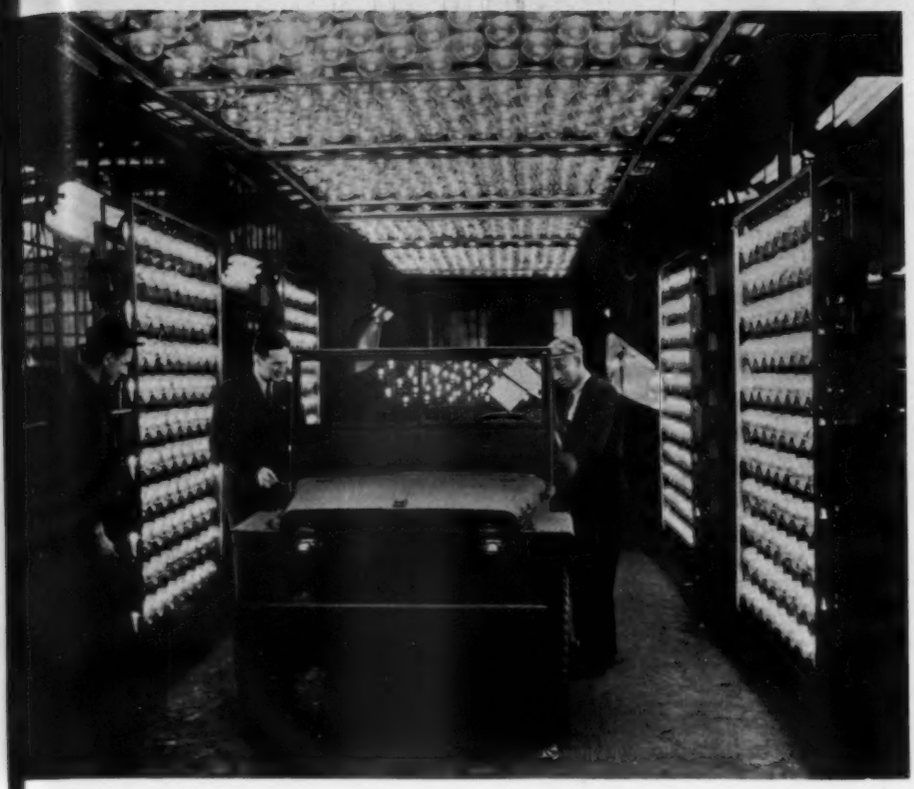
Paint on Therma jugs is dried by passing through a 50 foot tunnel consisting of 6 rows of sixty-six 260-watt lamps (Fostoria photo)

TYPES OF DRYING LAMPS AND REFLECTORS

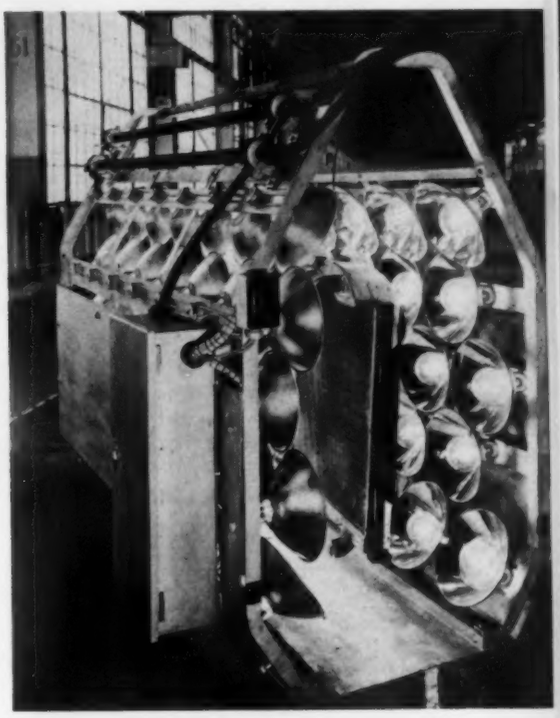
Drying lamps of three different wattages are regularly available. They are 250, 500 and 1000 watts. The lower wattage lamps employ the usual medium screw base. There are two general types; one, and incidentally the most popular, incorporates the use of a self-contained sealed-in-reflector. The other type is designed for use with separate reflectors. The 500- and 1000-watt medium bipost base lamps are for use with separate reflectors. Some of these reflectors are of the open type while others are totally enclosed using a cover plate of light-absorbing infra-red-transmitting glass to protect the reflector from an accumulation of dirt and dust and to reduce annoying direct or reflected glare.

Lamps used for the generation of infra-red or radiant heat are very much the same as the standard incandescent general lighting service lamps. This fact is evident when

* *Commercial Engineer, Westinghouse Elec. & Mfg. Co., Bloomfield, New Jersey.*



The paint on this army "blitz buggie" is being dried under infra-red rays, will have a better finish because the process works from the inside out. (OEM photo)



Compact infra-red drying tunnels release huge areas of floor space that were previously tied up with drying parts. (No. Amer. Elec. Lamp photo)

Infra-red for core and mold drying in foundries breaks production bottlenecks by eliminating slow and improper drying. (Westinghouse photo)

it is known that some ninety per cent of the energy consumed by the latter type of lamp is converted into heat. Hence, in itself it is an efficient infra-red or radiant heat generator. The principal difference between the two types of lamps lies in the fact that the drying lamp has a filament designed to operate at a lower temperature than that of the filament of the lighting lamp. This means that the drying lamp first, radiates a slightly greater part of its total energy in the infra-red region; second, produces less glare; and third, has a much longer life.

The drying lamp is designed for a life "in excess of 5000 hours," therefore, renewals of normal filament burnouts are infrequent. The general service lamp is designed for the purpose of producing light rather than radiant heat. In comparison with the drying lamp, its life is short, the reason being that the life and the light output of a given incandescent lamp are interdependent —the longer the life, the less the light output and vice versa. Because of this, in contrast with the drying lamp, the general lighting service lamp is designed for a shorter life in order to provide an economic balance between life and light output.

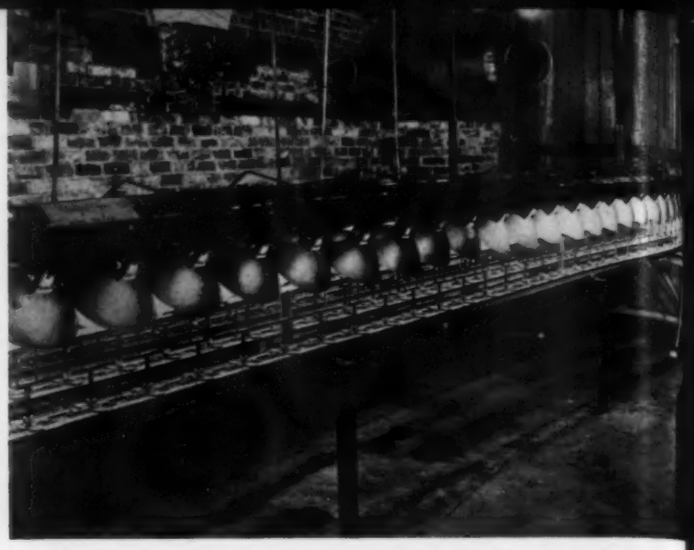
TYPICAL APPLICATIONS OF DRYING LAMPS

Speed is the principal advantage of radiant heat over other types of heat. This speed in drying finishes and heating material is due chiefly to the greater *rate* at which the energy is transmitted from the source of heat (the lamp filament) to the material and not, as so many believe, to some occult penetrating power. Although infra-red will penetrate thin paint films and transparent material such as glass, it does not penetrate solids such as wood or metals. The temperature rise inside of a mass of such material is due solely to heat conducted from its surface.

AUTOMOBILE REPAIR SHOPS

Perhaps the most prevalent possibilities for the sale of radiant heat lamps and equipment are for uses wherein engineering experience and knowledge are not essential. With no more new automobiles available for the duration of the war, it obviously will be necessary to keep existing cars in operation as long as possible. This will mean more business for the auto body paint and repair shop where the use of drying lamps is a "natural." Here a few lamps located on 10 in. or 12 in. centers and mounted on a movable stand will serve to greatly speed up drying of the paint and make possible body refinishing in damp, humid weather. This is not feasible when the paint is air dried. Complete lamp stands for this purpose are available from some of the radiant heat equipment manufacturers. In many cases,

Mounted lamps on movable stand cut the drying time from one and one half hours per coat of paint to twenty minutes for various types of auto body repair jobs. (Westinghouse photo)



Equipment installed in continuous line over conveyor spindles bakes finishes on wire stapling products, contributes an estimated 25 percent to reduced production costs. (Fostoria photo)

however, users build their own stands. In either event, the sale of the necessary equipment is very much worth while.

FOUNDRIES AND WAREHOUSES

In order to meet defense requirements, foundries are being called upon for ever-increasing production. Over a period of many years there have been no basic changes or improvements in the methods used for mold and core drying in foundries. This drying has been accomplished largely by means of charcoal burners or kerosene torches. Today, those foundries using radiant heat for this purpose are getting better results at greatly reduced labor costs. Every foundry is thus a live prospect for the sale of the required drying lamps, reflectors, sockets, etc.

Crating and packing areas in large unheated warehouses are uncomfortable places to work in cold weather. It requires no "infra-red" engineer to make them comfortable by suspending a few lamps in suitable reflectors over the working area, so that the energy is directed on the workmen.

EXPERIMENTAL TESTS FOR SPECIAL APPLICATIONS

These are only a few of the many applications of radiant heat requiring little or no technical advice. Where the heating or drying problem is more involved and is such as to indicate the need for trial tests, simple experimental equipment can be provided for mounting the drying lamps. If heat is to be applied to two sides of a plane surface such as sheet steel, cloth, etc., two banks of lamps should be provided. If to only one side, a single bank will suffice. Length and width of sample of material to be tested should be equivalent to spacing of lamps. In other words, if the lamps are located on 6 in. centers, the sample should be approximately 6 in. square. It may be placed between the two banks or above, below, or in front of a single bank. While being heated, the material should be moved around in its own plane within the area of the circle on which the sockets are located. The most suitable spacing of the lamps and the distance between the lamps and the material can be determined best by test. It should be kept in mind that the closer the spacing of the lamps and the nearer they are to the material the higher the temperature attained.

The approximate total number of lamps required for a given drying problem can be determined from the heat. If, for example, five minutes time is required to dry the sample, and it is desired to dry the material at a rate of five feet per minute, a single or a double (depending upon which is used for test) bank of lamps 25 feet (5 min. x 5 feet per min.) long would be necessary. The actual number of lamps, of course, would depend upon the width of the material and the spacing of the lamps as determined experimentally on the job.

GUIDES FOR PROPER INSTALLATION

It is desirable that prospective users know that drying lamps, like those for general lighting purposes, should be accorded a reasonable amount of care if they are to give most satisfactory service. Water, paint or other liquids coming into contact with a hot lamp bulb may cause it to break; thus drying lamps should be so located that no liquids dripping from material being dried will fall on the bulbs. Shock and vibration are detrimental to the life of incandescent lamps of any type. For this reason drying lamps should not be mounted on or attached directly to vibrating equipment such as a conveyor.

Some types of lighting lamps are designed for burning in a base up or a base down position only. Drying lamps may be burned base up, base down, base horizontal, etc. This means that radiant heat may be applied to the top, bottom or sides of any material or object.

No special sockets are required for use with drying lamps. Any good grade of porcelain shell socket is suitable for the 250 watt lamps while standard medium bipost sockets are used for the 500 and 100 watt lamps. Likewise, special transformer equipment is not necessary. Drying lamps may be operated direct on 120 volt lighting circuits. Where only 220-260 volt circuits are available, it is the common practice to operate drying lamps in series of two.

Despite the fact that radiant heat has worked apparent miracles in many heating and drying problems, neither the seller nor the purchaser of radiant heat equipment should be misled into expecting it to accomplish the impossible. However, it has solved many heating problems and will solve many more.

The wholesaler's salesman who has failed to develop at least a speaking acquaintance with this new industrial tool may be overlooking a very profitable field.

Sell Drying Lamps For Faster Motor Repairs

By H. C. McDaniel*

EXCEPTIONAL versatility and very substantial savings in time, are made possible through the use of infra-red or drying lamps. Those are the chief reasons for the ever increasing number of successful applications sold in widely diversified industries by wholesalers in cooperation with the manufacturer's sales engineers.

In a typical installation, a Western Pennsylvania coal mine repair shop, radiant heat was selected for armature baking because of its economy in first cost, in installation time and in baking time. With only a few minor changes in construction a steam heated oven was revamped to use one-hundred-twenty 250-watt R-40 bulb reflector drying lamps installed in tubular oven form. Where formerly a 12-inch armature required 18 hours for baking, the same job is now finished in 5 hours and with deeper penetration of the heat than was previously possible.

The original steam heated oven had double swing metal doors at one end and was 6 feet 5 inches high by 8 feet 3 inches wide and 10 feet deep, with red brick walls 9 inches thick. Air was circulated by a blower whose exit was in the center of the oven roof. The old oven was kept heated continuously and was much larger than actually needed for average repair work in process.

Revamping the steam oven required only the removal of the doors and roof venting, and painting the interior surfaces of the walls aluminum. The lamp assembly is suspended from the roof on barn door hangers. Two equal lamp banks form a 27-inch radius from the center of the oven and are adjustable to the proper distance of 7 inches from the armature surface. Eight wiring channel strips are spaced 45 degrees apart around the periphery. Lengthwise of each wiring channel are three groups of 5 lamps each. The lamps in each group are spaced on 6 inch centers while the groups are spaced 12 inches apart.

Power supply is single phase, 3 wire with individual 30 ampere switches controlling the 24 five-lamp groupings. Lengthwise of the oven are three 10 kw. lamp groups which will permit three armatures to be baked simultaneously. An automatic time clock arrangement enables baking of armatures after working hours, without attention and utilizing off-peak load.

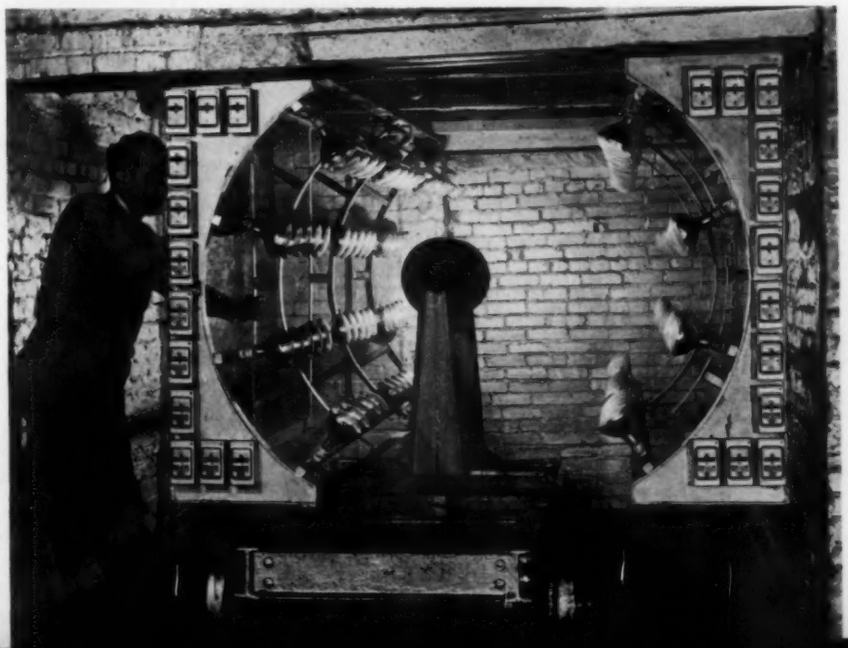
The baking temperature for this radiant drying oven is between 240 degrees and 260 degrees F. as compared to 185 degrees to 200 degrees F. for the steam oven. Baking time ranges between 3 to 9 hours for armatures from 6 to 18 inches diameter. The steam oven required from 12 to 35 hours to complete the same job. These results are highly significant to the company in cases of emergency, as any repair job may now be baked in less time than it takes for the stripping and rewinding operations. At all times the oven remains cool enough to allow operator to enter and check the progress of baking.

SOLD FOR ONE JOB

The following list covers the principal items that a wholesaler sold for this drying lamp job:

120—250 watt, 115 v., R-40 bulb reflector drying lamps
120—#1126 porcelain sockets
120—feet #1100 channel
24—pcs. #1104 straps
16—pcs. #1110 blank end caps
24—pcs. 30 amp., 250 volt, safety switches
500—feet #12 R.C. wire
1—automatic time clock
8—barn door slide hangers
Misc.—steel farm stock

In motor shops, infra-red is used for drying armatures and field coils. Number of lamps employed depends upon weight and diameter of unit. Adjustable lamp banks are moved into position 7 inches from armature surface with 24 individual switches controlling five lamp groupings. (Westinghouse photo)



* *Sales Engineer, Westinghouse Lamp Div., Westinghouse Elec. & Mfg. Co., Bloomfield, New Jersey.*

Sure I'm Sold on Fluorescent!

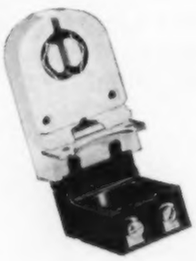
. . . look what I got with my Fixtures . . .

LOW COST OF MAINTENANCE

because of G-E Rotating Lock Lampholders. That simple, ingenious design permits one-hand lamp insertion and removal. That saves money in my business!

LONGER LAMP LIFE

because these G-E Fluorescent Starters are designed to start the lamp at just the right moment. When you use a lot of lamps like I do, that means a real savings in money!



PROTECTION FOR MY LAMP INVESTMENT

because the G-E Rotating Lock Lampholder has that positive locking action that grips the lamp firmly and securely. There's no lamp breakage in my place.

RELIABLE, CONSISTENT PERFORMANCE

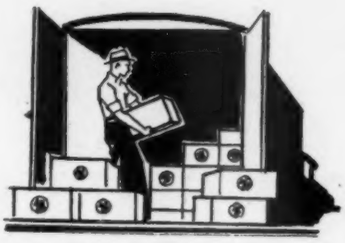
because G-E Starters are tested to provide the longest possible life. They're rugged and uniform in construction and that means I can depend on my fluorescent lighting.

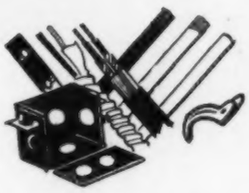
Believe me — it pays to look for that G-E "mark" on your fluorescent lighting equipment.

If you would like to know more about the complete line of G-E Fluorescent Starters and Rotating Lock Lampholders, write to Section G923-21, Appliance and Merchandise Dept., General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

"And I'm protecting my fluorescent lighting with G-E Wiring Materials"





AVAILABLE ON PRIORITY BASIS

G-E Wiring Materials are high quality and give uninterrupted service. The line includes all of the wiring materials needed to serve fluorescent lighting. There's a distributor handling them right in my own territory. (G-E Wiring Materials Distributors are located at key points all over the country.) That's why I chose G-E Materials to serve my fluorescent lighting.

G-E CONDUIT PRODUCTS

G-E Conduit Products include G-E Black enamelled conduit, G-E White hot-dipped galvanized zinc-coated conduit, E.M.T., flexible conduit, G-E Fiberduct, BX and BraidX. They are carefully made quality materials. I adopted G-E Black conduit to carry the wires serving my fluorescent lighting because using it saves zinc for the war effort.

G-E WIRE AND CABLE

I found different grades of building wire to meet different conditions—Type R, Code Grade; Type RP, Performance Grade; Type RH, Heat Resistant Grade; Type RW, Moisture Resistant Grade—all high quality materials. There are also different fixture wires including rubber insulated and Deltabeston asbestos insulated.

G-E WIRING DEVICES

There are literally hundreds of G-E Wiring Devices — fluorescent lampholders and starters, switches, branch-circuit circuit breakers, fuses, convenience outlets, plates, etc. I particularly like G-E No-Blink fluorescent starters because they automatically "cut out" dead lamps and extend the useful life of the starters.

For further information on G-E Wiring Materials to serve fluorescent lighting or for information on wiring materials for any other purpose, see the nearest G-E Merchandise Distributor or write to Section CDW929-21, Appliance and Merchandise Department, General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

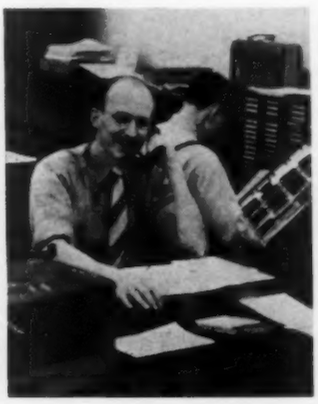
A group of the boys at Fife Electric Supply Co., Detroit, Mich., show their smiles for the WS cameraman. Left to right are: store manager Bill Rau, Don Fife, Bob Fife, Allen Higgins, Jack Beels, and Dan Lemelin.

Below: D. Lyle Fife, triple-playing as president, treasurer, and general manager, takes a short minute off from what are probably war production orders.

The CAMERA CLICKS at a Detroit Wholesaler's

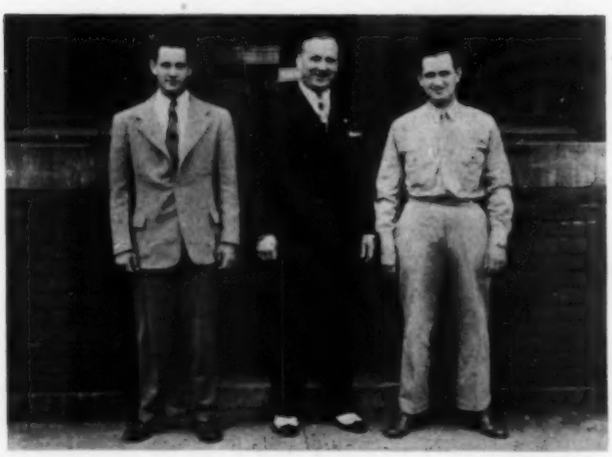
H. M. Hopkins is Fife Electric's sales manager.

Joe Nelson is in charge of all the purchasing.



Doug Pinney with Allen Higgins in background.

Salesman Ross Fife, left, with H. M. Hopkins.



Three Fifes, boss D. Lyle, and his two sons, Bob and Don, outside the main entrance. Don is in the medical corps of the Army Air Forces.

The girls didn't want to pose but the boss lined them up. L. to r., Ruth Pfueger, Florence Wennerholm, Marie Clark, Dorothy Huess, Peggy Deering, Iona Gardner, Helen Ortman.

Price Regulation and the Electrical Wholesalers*

By John A. Pfanner, Jr.

Office of Price Administration, Washington, D. C.

IF prices were permitted to move upward without restriction, undesirable and perhaps disastrous consequences, are certain.

If prices were permitted to move upward freely, it would be to each person's advantage to buy the greatest volume of commodities possible, and to sell as little as possible.

If prices were to mount rapidly, goods would sell for more and more while money would buy less and less. Every person and every business enterprise would desire to hoard commodities, and it is apparent that hoarding would reduce the flow of commodities into the war effort.

In addition to the effect upon the war effort, inflation and hoarding would have disastrous consequences for civilians now and for some time to come. Creditors, persons living on fixed money incomes, endowed institutions, and many other persons and groups would suffer great hardships. If the tax revenue of municipal and state governments could not be rapidly adjusted to the higher price levels, it might be impossible to maintain state and municipal services. We can all agree that these conditions must be avoided.

Why Price Control

Electrical wholesalers might gain some temporary advantages through increasing prices. Prices could be increased to compensate for increased cost of goods purchased, for increased wage cost, and for the various other increased costs. In addition to these possible advantages, increasing prices might permit wide margins on inventories purchased at the low prices which were current before the price increases.

To offset these gains, however, reasonably sure losses may be cited. Money received from collections of accounts receivable might be worth less than the goods shipped under the transaction which gave rise to the receivables. Prices which go up are almost certain to come down, and the decline in prices is usually more rapid, and therefore more disastrous than the price increase. We can agree, I think, that price controls are necessary for electrical wholesalers.

OPA Price Order No. 136

Maximum Price Regulation No. 136, as amended, (which includes electrical wiring materials and equipment), establishes the basis of maximum prices on most items which electrical wholesalers sell. This price regulation of electrical equipment is a necessary part of the Office of Price Administration's general program to prevent inflation. The provisions of Maximum Price Regulation No. 136, as amended, definitely involves restrictions upon the freedom of pricing procedures. The provisions of this Regulation necessitate the filing of reports with the Office of Price Administration, but the number of these reports has been held to an absolute minimum.

The preparation of these reports, and the compliance with the necessary procedures may be tedious and burdensome. Over a period of fifty-five years, regulation of railroad rates by the Interstate Commerce Commission has demonstrated that the objective of price regulation cannot be achieved without the use of reports and procedures. The objective of the regulation with which we are concerned involves the maintenance of the stability and the working relationships of our economic system. Such stability is an aid in the war program; it also serves the purpose of maintaining, for the post-war period, the economic system which we have wanted and have built. The objectives warrant the price we must pay.

Not all of the hardships which electrical wholesalers will endure during coming months can be attributed to the program of the Office of Price Administration. Inability to get certain commodities and a greatly reduced volume of other commodities are not a result of price regulation. Delays in shipments of needed goods are not a result of price regulation. The loss of competent help, and the difficulty of getting new help are not a result of price regulation. The confusion associated with rapid changes in commodities, suppliers, and in markets is not a result of price regulation. These difficulties arise from the necessities of the war effort.

Maximum Price Regulation No. 136, as amended, provides: On and after July 22, 1942, regardless of any contract, lease or other obligation: (1) No person shall sell or deliver and no person shall supply any products covered by the order at a price higher than the maximum price established by Maximum Price Regulation No. 136, as amended; (2) No person in the course of trade or business shall buy or receive any products or services covered by the order at a price higher than such maximum price. The term "machines and parts" as used in the Regulation is defined so as to include, with a few exceptions, electrical goods and equipment.

Filing Wholesalers' Prices

In the event that some electrical equipment wholesalers may not have filed price lists, discounts and rentals by the time this issue of WHOLESALER'S SALESMAN is published certain suggestions concerning filing are given below. These suggestions are presented as an aid in filing, or as a check list to use in connection with your filing. They are not presented as a definitive and complete statement of the filing requirements of the Regulation. For an authoritative and complete source of information concerning your problems in connection with filing, your attention is directed to the Regulation itself (Printed in the August 1942 issue of WHOLESALER'S SALESMAN, The Editor.), or you may write or call your nearest Regional Office of the Office of Price Administration or the Office of Price Administration in Washington, D. C. The suggestions are stated as follows:

***This article was prepared expressly for exclusive publication in the August 1942 issue of WHOLESALER'S SALESMAN. Unfortunately it did not reach our editorial office until after that issue had gone to press. It covers the price order problems of the wholesaler so thoroughly and supplies authoritative answers to so many pertinent questions, that its value to our readers will not have suffered by the unavoidable delay in its publication.**

(1) Your price filing should be accompanied with a letter stating that you are filing all of your published or confidential price lists, discounts, rentals and charges in effect October 1, 1941, or March 31, 1942 whichever date is applicable. State also, that these are your current maximum prices, discounts, rentals and charges.

(2) If you sold from suppliers' catalogs or price sheets, do not file these price sheets or catalogs, but identify clearly and indicate each price sheet which you used by giving the name of the supplier, the number of the price sheet, the date of issue of the price sheet, and a statement of any exceptions.

(3) File all discount sheets giving quantity discounts, or discounts to different classes of buyers. The catalog or price list to which each discount sheet applies should be clearly indicated.

(4) If you do not sell certain items or classes of items from a catalog which you file, these items or classes of items should be clearly indicated.

(5) Give a statement of your conditions and terms of sale in effect October 1, 1941, or March 31, 1942 whichever date applies, covering credit terms, cash discounts allowed, terms with respect to outbound freight, and any guarantee made with respect to products or services.

Specific Questions Answered

As you read the provisions of Maximum Price Regulation No. 136, as amended, and as you think of these provisions in their application to your enterprise, many questions may arise. The questions and answers which follow are an attempt to anticipate some of the more pertinent problems concerning the application of Maximum Price Regulation No. 136, as amended, to electrical wholesalers. These questions are presented as an aid to your understanding of the Regulation. They are not a final or authoritative solution of your specific problems. For a copy of Maximum Price Regulation No. 136, as amended, and for legal interpretation of the Regulation, you are urged to write to the nearest Regional Office of the Office of Price Administration, or to the Machinery Branch of the Office of Price Administration in Washington, D. C.

(1) Does Maximum Price Regulation No. 136, as amended, apply to all products handled and sold by electrical wholesalers?

The application of Maximum Price Regulation No. 136, as amended, Machines and Parts, and Machinery Services, is limited to products falling within the groups listed in Section 1390.32—Appendix A, and Section 1390.33—Appendix B (See end of this Article for electrical equipment included in Appendix A and Appendix B.) of the of the Regulation. Two other regulations issued by the Office of Price Administration cover a large number of items sold by electrical wholesalers which are not covered by Maximum Price Regulation No. 136, as amended. These are the General Maximum Price Regulation,

"Hey, Brother, I'm on YOUR side!"

and Revised Price Schedule No. 82, Wire, Cable, and Cable Accessories.

Appendix A of Maximum Price Regulation No. 136, as amended, includes a listing of electrical equipment comprising most of the items which electrical goods wholesalers sell. The items excluded from the Regulation, which many electrical goods wholesalers sell, are: Domestic appliances, refrigerators, ranges, washing machines, vacuum cleaners, domestic radios and phonographs, incandescent and fluorescent bulbs and tubes, dry batteries and flashlights. These are covered by separate orders.

(2) Does Maximum Price Regulation No. 136, as amended, apply to all sales of the commodities covered?

Certain transactions and sales by certain enterprises are excluded from the Regulation. Sales of the items covered by enterprises which customarily operate as retail enterprises are excluded from Maximum Price Regulation No. 136, as amended, but are covered by the General Maximum Price Regulation. Retail sales are excluded from the Regulation unless made by the manufacturer of the machine or part. A sale at retail means any sale to an ultimate user other than an industrial, commercial or governmental user. Any sale or delivery of a machine or part, or any machinery service performed pursuant to an "emergency purchase" by the United States or any agency thereof for immediate delivery is excluded from the Regulation.

(3) What maximum prices are established by Maximum Price Regulation No. 136, as amended?

The maximum prices established by the Regulation are based upon your own individual prices and pricing practices in effect October 1, 1941, and for a few items, your prices in effect March 31, 1942. The Regulation gives three methods by which maximum prices shall be determined. Each of these methods applies to a specific pricing situation.

I. The first method is concerned with products sold from published or confidential price lists. If you had published or confidential price lists in effect on October 1, 1941 (with respect to items included in Appendix A) or in effect March 31, 1942 (with respect to items included in Appendix B) covering: (1) Sales of machines or parts, or (2) rental of machines or parts, the maximum price to any purchaser for any machine or part so listed shall be the net price which you would have received on that date from a

purchaser of the same class. (For exception, see answer to Question 9).

II. The second method is concerned with products which were not sold from price lists in effect October 1, 1941 or March 31, 1942. If for any product covered by the Regulation you had no published or confidential list price in effect on October 1, 1941 or March 31, 1942, the maximum price to any purchaser for such a product shall be the net price determined by applying to the seller's net invoice cost of such product, not to exceed the applicable maximum price, the average percentage margin over net invoiced cost realized on or about the applicable base date for the same machine or part sold by you on or about that date to purchasers of the same class, or if none was sold on or about October 1, 1941, or March 31, 1942, for all products of the same class sold by you on or about that date. This is another way of saying that, for example, if your sales of commercial lighting equipment on or about October 1, 1941, to a particular class of customers were made at an average mark-up over your net invoiced cost of 25 percent, your current maximum price for lighting equipment for which you had no price list on October 1, 1941, is 25 percent above the net invoiced cost of the same class of equipment sold by you on or about that date.

III. The third method of determining maximum prices is concerned with the situation in which you have taken on a new line of products. With respect to items in this category, if you sold no products of the same class on or about October 1, 1941, or March 31, 1942, whichever date is applicable, the Regulation requires that you file a report with the Office of Price Administration in Washington, D. C., giving your proposed price, the proposed billing date, the net invoice cost of the products, the date of purchase, and a statement of the basis on which such proposed price was determined, and the reasons why the first or second methods cited above do not apply.

(4) What items come under each of the base dates mentioned in the Regulation, October 1, 1941 and March 31, 1942?

A relatively simple answer can be given to this question if our thinking is confined to electrical equipment. This answer, however, will not apply to all machines and parts sold by electrical wholesalers or other wholesalers. The electrical equipment and apparatus listed in Appendix A of the Regulation, and all of the parts of this equipment and apparatus produced by the manufacturer of the complete pieces of equipment or apparatus carry an October 1, 1941 base date. The March 31, 1942 base date applies to parts of equipment or apparatus which are not produced by the manufacturer of the complete piece of equipment or apparatus, and to the radio apparatus and other products specifically mentioned in Appendix B.

(5) Are we expected to file our maximum prices with the Office of Price Administration?

Maximum Price Regulation No. 136, as amended, requires that you file all of your published and confidential price, rental and discount sheets in effect October 1, 1941, or March 31, 1942, whichever date is applicable, on or before August 1, 1942 with the Office of Price Administration in Washington, D. C. If on October 1, 1941 or March 31, 1942, you sold, leased, or delivered machines or parts at prices based upon price sheets published by any other person subject to the Regulation, you need not file such other person's published price sheets, but shall file instead a statement identifying the particular price sheets you used on that date, together with your own discount sheets, if any, and a statement of any prices which constitute exceptions to such practice.

(6) Are we required to file maximum prices for all items which we carry?

The filing provisions of Maximum Price Regulation No. 136, as amended, apply only to the items covered by the Regulation. If you had published or confidential price sheets in effect October 1, 1941, or March 31, 1942, for items which are covered by the Regulation, you are required to file these price sheets. You are not required to file the price for an item, if on October 1, 1941, or on March 31, 1942, you could not determine your selling price until you had received an invoice from your supplier or if you determined your price only after you had received a firm quotation from your supplier.

(7) Are we required to file our prices in effect October 1, 1941, or March 31, 1942, if we do not or did not quote prices from a catalog of our own publication?

You are required to file your published and confidential price sheets whether or not you published a catalog. As was stated previously, however, if you quoted prices from a supplier's price sheets, you may satisfy the filing requirements of the Regulation by giving the name of the supplier, and identification of the catalog or price sheets which you used, and by giving the discounts which you used in connection with these price sheets, if any.

(8) Does the Regulation require the filing of prices for products not covered by published or confidential price sheets in effect October 1, 1941, or March 31, 1942?

Maximum Price Regulation No. 136, as amended, requires only that you file all published or confidential price sheets in effect October 1, 1941, or March 31, 1942, from which you sold on the applicable date. A maximum price is established by the Regulation for all of the items which it covers, and which you sold on or about October 1, 1941, or March 31, 1942. You are required to file these maximum prices, however, only if they were in the form of published or confidential price sheets.

9. Must we sell an item at the price or below the price in effect October 1, 1941, even though this price did not reflect a price increase made by our supplier just prior to October 1, 1941?

The Office of Price Administration recognizes that some time may be required for wholesalers to reflect increases in prices made by manufacturers or suppliers upon their own resale prices. With this in mind, Maximum Price Regulation No. 136, as amended, provides that if you increased your price for an item during October, 1941, because of an increase in price made by your supplier between September 1 and October 1, 1941, inclusive, your maximum price for the item shall be either your price in effect on October 31, 1941 or your price in effect on October 1, 1941 plus an amount not exceeding in percentage the amount of the increase in the price to you, whichever is lower. Your price for this item in effect October 1, 1941, however, shall be your maximum price unless you file a report with the Office of Price Administration in accordance with Section 1390.10 (2) of Maximum Price Regulation No. 136, as amended, by September 1, 1942.

(10) Is it necessary, with respect to new lines added after October 1, 1941, for us to receive approval of our price from the Office of Price Administration before we may quote, sell, deliver or rent these items?

According to Maximum Price Regulation No. 136, as amended, the Office of Price Administration has thirty days within which it may approve or disapprove of a price which you may propose for such new items which you add to your line after October 1, 1941. It is not necessary, however, for you to wait for action by the Office of Price Administration in order to make price quotations, sell, rent or make deliveries of the item. Your invoices on these sales of new items should carry the notation that the prices are subject to approval and revision by the Office of Price Administration. With respect to such sales or deliveries, the Regulation requires that you stand ready to make rebates to your customers of the amount charged in excess of the amount which is finally determined as your maximum price for the item.

(11) If our competitors had prices in effect October 1, 1941, which were higher than our price for the item on October 1, 1941, does our low price for the item become our maximum price?

On and after July 22, 1942, the effective date of Maximum Price Regulation No. 136, as amended, your net prices in effect October 1, 1941, or on March 31, 1942, which ever is applicable, shall be your maximum prices for products with list prices. This provision of the Regulation may result in a low margin on certain items and possible hardship for certain electrical wholesalers. It is true, however, that on any date that might be chosen, or in any period that might be chosen for the purpose of establishing maximum prices, your margins would not be entirely satisfactory on all items. The prices and margins which existed on October 1, 1941 were established by competition or by factors operating within your own enterprise. The objective of Maximum Price Regulation No. 136, as amended, and of the general program of the Office of Price Administration is to prevent inflation by stabilizing prices at levels which were established by competition or by your own choice.

(12) What is our maximum price and how shall we file prices for items illustrated but not priced in our catalog, which carry the following instructions "Prices quoted upon request."?

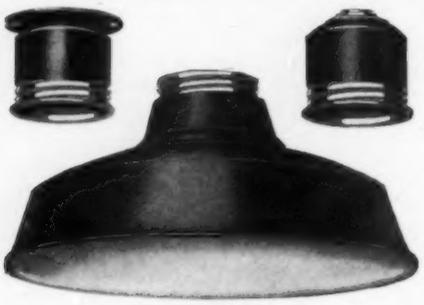
If you had a confidential price list for these items on October 1, 1941, or March 31, 1942, and used this method to keep the price confidential, the Regulation requires that you file this price and it be-

QUAD
LIGHTING UNITS

with the RLM Label . . .

JUST RIGHT Now

FOR THOSE COMPLICATED DEFENSE LIGHTING JOBS



No. 1184-M
RLM THREADED
DOME REFLECTOR

ADJUSTABLE PORCELAIN
ENAMELED FLOODLIGHT

QUADRANGLE 500 WATT RLM

The RLM Label on QUAD Lighting Units means that they fill all high intensity requirements to speed defense production. Defense work has opened up the need for many additional installations of lighting equipment so that it is becoming really big business. QUAD Units will fill the bill in every case. Basic design and construction features are correct—they are modern in every respect—they give no after installation worries. QUAD is the line that will be as popular tomorrow as it is today.

•

QUADRANGLE MFG. COMPANY

Mfgrs. of Incandescent and Fluorescent Lighting Equipment

32 SO. PEORIA ST. CHICAGO, ILL.

comes your maximum price. If, however, you had no price list including this item and you quoted a price only after receiving a firm quotation or invoice from a supplier or manufacturer, this item should be treated in accordance with one of the two procedures outlined above for items not covered by a price list in effect October 1, 1941, or March 31, 1942.

(13) Must we sell items at or below our prices in effect October 1, 1941, or March 31, 1942, even though our suppliers have increased their prices since the applicable date?

Your suppliers of the items covered by Maximum Price Regulation No. 136, as amended, are also covered by this Regulation. Your suppliers are required to file their net prices in effect October 1, 1941, or March 31, 1942, and on and after July 22, 1942, sales at prices in excess of these maximum prices are in violation of the provisions of said Regulation. In the event that it is now necessary for you to purchase an item from a supplier from whom you made no purchases of the item on October 1, 1941, or March 31, 1942, and in the event that this new supplier has higher prices than those which you paid for the item to your old supplier on the applicable date, and in the event this causes you undue hardship, you may file a petition for amendment to Maximum Price Regulation No. 136, as amended, pursuant to Procedural Regulation No. 1. Copies of Procedural Regulation No. 1, and information concerning preparation of your petition may be obtained from the nearest Regional Office of the Office of Price Administration by letter or by personal call or from the Washington Office of the Office of Price Administration.

(14) Must we file a notarized statement together with our established prices in effect October 1, 1941, or March 31, 1942?

A notarized statement is not required under Maximum Price Regulation No. 136, as amended. A letter accompanying the established prices which you file, signed by a responsible individual in a position to know the facts, and stating that the prices which you are filing were in effect October 1, 1941, or March 31, 1942, will satisfy the filing provisions of the Regulation.

(15) Does Maximum Price Regulation No. 136, as amended, include provisions concerning conditions and terms of sale, and trade practices as well as price provisions?

The Regulation provides that a change in discounts or customary price differentials among classes of purchasers, a reduction in the period of any guarantee or warranty of performance, or undervaluation of commodities received in trade, or any other change in terms of conditions of sale, lease or contract which effects a price increase above the applicable maximum price is a violation of the Regulation.

(16) Does Maximum Price Regulation No. 136, as amended, apply to items which we carry on a consignment basis, or to items on which we act as a manufacturer's agent?

The fact that certain items are held and sold on consignment does not of itself exclude those items or sales from the provisions of the Regulation. Generally speaking, persons (except retailers) holding and passing title to covered com-

modities are subject to the Regulation with respect to their sales of these commodities. It should be noted that Maximum Price Regulation No. 136, as amended, clearly states that no person shall sell, deliver, or lease and no person shall buy, receive, or rent the commodities covered by the Regulation at a price higher than the maximum price. This statement is sufficiently broad to bind both a principal and his agent.

(17) Do sales of secondhand electrical equipment come within the provisions of Maximum Price Regulation No. 136, as amended?

The Regulation establishes maximum prices for two types of secondhand electrical equipment, and other machines and parts, as follows: (1) The maximum price for any rebuilt and guaranteed machine or part shall be not more than 85 percent of the highest maximum price to any class of purchasers for the nearest equivalent new machine or part established by Maximum Price Regulation No. 136, as amended; (2) the maximum price for any other secondhand machine or part shall be not more than 55 percent of the highest maximum price to any class of purchasers for the nearest equivalent new machine or part established by the Regulation.

The Regulation defines a secondhand machine or part as any machine or part which has previously been used.

(18) Are we required to absorb federal and state taxes upon the sale or delivery of items covered by Maximum Price Regulation No. 136, as amended?

The Regulation gives three types of situations under which you are not required to absorb taxes, and under which you may collect such taxes in addition to your maximum price. These three situations are: (1) State and federal taxes which you added to the price paid by purchasers on October 1, 1941, or March 31, 1942, if such tax is separately stated; (2) taxes upon the sale or delivery of commodities covered by the Regulation and compensating use taxes becoming effective after October 1, 1941, or March 31, 1942, if you state such taxes separately unless your prices in effect October 1, 1941, or March 31, 1942, include the amount of such taxes; (3) separately stated taxes on goods purchased, unless your prices in effect October 1, 1941, or March 31, 1942, included the amount of such taxes.

(19) What provisions are included in the Regulation concerning outbound transportation charges?

The Regulation provides that changes in the conditions and terms of sale in effect October 1, 1941 or March 31, 1942, whichever date is applicable made to effect an increase in price above the maximum price provided for by the Regulation, are a violation of the Regulation. Your conditions of sale with respect to outbound transportation charges which were in effect October 1, 1941, or March 31, 1942, whatever they may have been, will comply with the provisions of the Regulation.

(20) Does the Regulation include any provisions which grant exceptions or exemptions to meet special situations?

The Regulation includes a section concerning emergency service charges. Where an emergency requires that material be obtained from a source more expensive than the usual source, or where

TRAPPED by Light!

There is no getting away from it! To combat the increasing threat of sabotage, properly planned floodlighting installations leave no room for side-stepping. They become "light traps" which prevent approach to vulnerable areas—or escape from them.

Guarding the plants which make America strong is one of the many ways Goodrich Industrial Lighting serves the nation today.

ELIPSO STANDLITE

A typical Goodrich development in lighting. Provides a veritable barrier of light through which intruders cannot penetrate without immediate detection by guards or watchmen. Finished in permanent porcelain enamel and completely weatherproof. Literature on request.

GOODRICH RLM

Protecting vital plants with floodlighting—saving man-hours in production—Goodrich industrial fixtures are serving America's war effort everywhere.

SOLD ONLY THROUGH ELECTRICAL WHOLESALERS

GOODRICH ELECTRIC COMPANY

OFFICES IN ALL PRINCIPAL CITIES

GENERAL OFFICES AND FACTORY: 4610 BELLE PLAINE AVENUE, CHICAGO, ILL.

IN FLUORESCENT FIXTURES

look for

KULKA LAMPHOLDERS

●KULKA fluorescent lampholders are a sure badge of quality, made to exacting engineering specifications that guard against loosening of lamps. Perfect electrical contact is assured even under the most unfavorable conditions. If you are sure that every fixture you sell has KULKA lampholders, you will be sure that every installation will be right. KULKA lampholders are built to withstand tough punishment. Read this letter...

FLUORESCENT ILLUMINATING ENGINEERS

Engineered Industrial Lighting Fixtures

SAN ANTONIO, TEXAS

April 15th, 1942

Kulka Electric Mfg. Co.,
30 South Street,
Mt. Vernon, N. Y.

Attention of Mr. William Kulka

Dear Sir:

Your Kulka fluorescent lamp sockets and starter socket bases have been largely instrumental in solving a very difficult problem for us.

We manufacture a directional and adjustable fluorescent night maintenance flood-lite. It is used in the hangars at United States Flying Fields to provide a flood of high intensity illumination on a plane undergoing maintenance or repairs.

An excessive amount of vibration develops as the unit is moved around on the hangar floor or during adjustment for height or angle.

Ordinary types of sockets would not hold the lamps securely and they would either fall out or loose contacts would cause dangerous arcs. And a great deal of trouble was caused by defective starter contacts.

Since we began to use Kulka sockets several months ago, these difficulties have been completely eliminated. A sample unit equipped with Kulka sockets was thoroughly tested by the Engineering Staff of Luke Field, Phoenix, Arizona and resulted in our receiving an order for 72 units which is being shipped now.

So along with everything else these days, KULKA sockets are on the way to War, too!

Very truly yours,

J. M. Neville

Jmn/el

Cat. No. 555 (Black)
Cat. No. 555W (White)

●KULKA turn-type lampholders provide secure and safe locking of the tube into the holder and will withstand all vibration. Starter sockets have *two wire holding* screws on the bottom of the socket, enclosing all live parts and eliminating side wiring. Write for details on this and other KULKA Wiring Devices.

← *Read this letter*

●Listed by Underwriter's Laboratories. Approved by the Department of Water Supply, Gas & Electricity of the City of New York and the Canadian Engineering Standards Association.

ORDERS SHIPPED ONLY ON A-1-K OR HIGHER PRIORITY

Manufacturers of Electrical Wiring Devices

KULKA ELECTRIC MFG. CO., INC.

30 South Street . . . . . Mount Vernon, N. Y.

an emergency requires special handling of a machine or part after its manufacture, an extra charge in the amount of the extra out-of-pocket expense incurred for special services may be collected in addition to the maximum price established by the Regulation, providing that such extra charge is stated separately from the purchase price in billing. This exception, however, does not permit you to pay more than the applicable maximum price for any material or service.

As was noted in the answer given to Question 2, emergency purchases by the United States or any agency thereof for immediate delivery are excluded from the Regulation.

The electrical equipment items listed in Appendix A of Maximum Price Regulation No. 136, as amended, are as follows:

(e) ELECTRICAL EQUIPMENT:

- Airport, Airways and Seadrome Lighting (not including Aircraft Fixtures)
- Arc and Resistance Welding Equipment, Electrodes and Supplies
- Capacitors (except Mica)
- Carbon, Graphite and Metal Graphite Products for Electrical Uses
- Circuit Breakers
- Commercial Lighting Equipment
- Communication Equipment including Telephone, Telegraph, Signalling Apparatus and Public Address Systems
- Conduit Fittings
- Electric Motors, Generators, and Renewal Parts (except automotive)
- Electrical Motor-Generator Sets
- Electric Storage Batteries
- Electric Control Equipment (including Magnets and Renewal Parts), except Control Devices used for domestic installations
- Electrical Industrial Heating Units and Devices
- Electrical Power Conversion and Rectifying Equipment of any type or size
- Feeder Voltage Regulators
- Flood Lighting Equipment
- Fuses for the Protection of Electrical Equipment
- Industrial and Marine Electrical Lighting Equipment
- Instruments for Measuring Electrical Quantities (except automotive)
- Knife and Enclosed Switches
- Lightning Arrestors
- Magnetos
- Metallic Outlets and Switchboxes
- Metallic and Non-Metallic Ducts
- Outdoor and Indoor Substations
- Panel and Distribution Boards, except Asbestos and Cement Boards
- Searchlight Equipment, except completely assembled military Searchlight Equipment
- Special Electrical Metals and Alloys (except steel with less than 6 percent alloy content) in any fabricated form used for electrical resistance, magnetic or glass sealing purposes, including Special Contact Alloys and Special Coated Iron Wire
- Street and Highway Lighting Equipment

Switchgear and Switchgear Accessories
Synchronous Condensers
Transformers, including Specialty Transformers
Trolley Line Material
Turbine Generator Sets
Wiring Devices
X-Ray and Electro-Therapeutic Apparatus

The items included in Appendix B of Regulation 136, as amended, of special interest to electrical equipment wholesalers are:

(1) Any part or subassembly of the electrical equipment mentioned in Appendix A when manufactured by a person other than the manufacturer of the complete item.

(2) Battery Chargers (except Motor Generator sets)
Electrical Wire, Cable and Cable Accessories (except when subject to Revised Price Schedule No. 82, as amended)
Mica Capacitors
Pole Line Hardware and Line Construction Specialties
Poreclain, Steatite, and Glass Insulators
Radio Transmitting and Receiving Apparatus, including Electronic Devices for sound recording, sound and direction detection, communication, controlling, and measuring, Electronic Tubes, vacuum and gas filled, and similar Light-Sensitive Devices, for applications other than Sun Lamps, light sources, and domestic Radio Receivers (See Revised Price Schedules No. 83—*Radio Receivers and Phonographs and* No. 84, *Radio Receiver and Phonograph Parts.*

SELLING CONVERSION LIGHTING

(*Continued from page* 29)

an adequate rating; he may suggest modification of the design; or he may recommend rejection of the application entirely.

Most lighting equipment requires a high preference rating, with fluorescent needing A-2 or higher. If a lighting installation for a converting plant is approved by the WPB, the applicant receives a rating sufficiently high to obtain the fixtures when needed.

Great emphasis is placed by the WPB on the data that should accompany the PD-1A Form. Although it is essentially the same information that lighting engineers would require in designing a job, apparently many applications have been sent in without this data.

Along with PD-1A, the Lighting and Fixtures Section wants to know what type of work is performed in the area to be lighted. Also it needs data on the square footage, ceiling heights, condition and color of the walls and ceilings. The present light intensity and detail on the existing fixtures should be given, also data on the wiring system and whether or not new wiring will be needed.

PROPER WIRING
For Lighting Heavy Equipment

SAVES POWER, COPPER, STEEL and CUTS INSTALLATION TIME

Savings and safety, two present-day musts, can be achieved by the proper wiring of heavy equipment.

Lighting Transformers, used on individual machines to step down the 230 or 460 volt power circuit to 115 volts for lighting, can eliminate the need for running the 115 volt circuit from the ceiling. The important economies of this single-circuit system are the saving of scarce copper wire and steel conduit, the conserving of valuable power and the cutting of installation time. Also important is the safety factor of lower voltage in open sockets and the use of but one type of bulb of standard size.

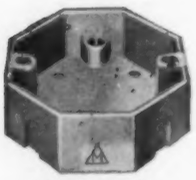
CHICAGO TRANSFORMER CORPORATION
3501 WEST ADDISON STREET • CHICAGO

PORCELAIN INSURES *Complete* INSULATION, PERMANENCE AND ECONOMY . . . . .

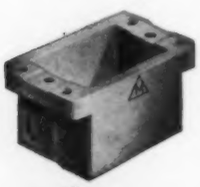
ILLINOIS

Completely Insulated

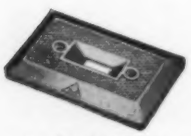
ALL PORCELAIN WIRING SYSTEMS



OUTLET BOXES AND COVERS



SWITCH BOXES AND COVERS



TOGGLE SWITCH PLATES

• Look into porcelain advantages now for the important jobs that you are going to do. See how the Illinois Electric Porcelain Company has made each of its products to be most adaptable and practical — easy to handle —easy to install.

Porcelain is a logical wiring material and it conserves steel, zinc, copper, rubber. Grounding is unnecessary when you use this system. Clamps are not required for porcelain boxes.

You get every advantage in making easier, safer, more convenient, and efficient layouts. Rusting and corrosion problems are eliminated.

Being a non-critical material, you can make your plans for the use of ILLINOIS Porcelain now.

Bull Dog REGISTERED

Look for this Trade Mark

STANDARD TUBES

STANDARD KNOBS

CLEATS

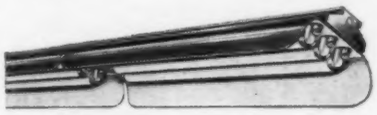
LAMP HOLDERS

ILLINOIS ELECTRIC PORCELAIN CO.

MACOMB, ILLINOIS

New Products You Can Sell

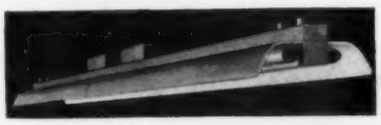
FLUORESCENT UNIT



V-Series Day-Line industrial lighting fixture is available in single and continuous units. In place of steel usually used in the manufacture of porcelain enamel reflectors, a composition pressed-board is used and given a 325° baked enamel finish. DayBrite Lighting, Inc., St. Louis, Mo.

When writing mention WHOLESALER'S SALESMAN

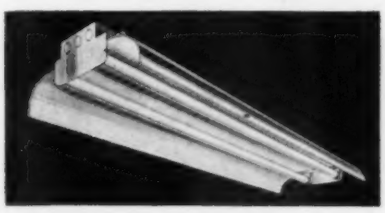
FLUORESCENT UNIT



Non-metallic fluorescent unit, for war production industries, employs CurtiStrip wiring channel for two or three 40-watt lamps or two 100-watt lamps per reflector. Eight or ten foot sections may be joined for continuous runs of any length, or reflectors may be omitted without interfering with continuous wireway. Ballasts and starters are mounted on top of CurtiStrip. Fluracite reflector is easily cleaned. Curtis Lighting, Inc., Chicago. Ill.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT UNIT



The Maze-Lite unit for 2-40, 3-40 and 2-100 watt fluorescent lamps has a reflector formed of sturdy pressed wood. The company's "300 white" finish continues to be used. Accessory housing

is of steel, employs side-of-channel starter-switches for easy trouble shooting, and end plates which extend behind the lampholders for added protection to these parts during transit, installation and servicing. For unit or continuous mounting, can be attached to conduit or to chain-hanger. Edwin F. Guth Co., St. Louis, Mo.

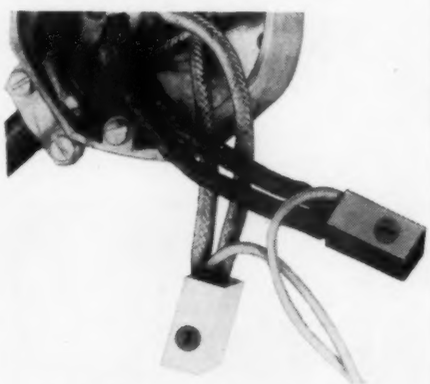
When writing mention WHOLESALER'S SALESMAN

FLOODLIGHT

Type L-66 all-steel floodlight, featuring a combination of socket-housing and reflector die-formed in one place, utilizes a 200-watt bulb. Its wide beam can be pointed in any direction by means of the two-jointed shaft upon which the unit rests. Adapted to such present-day urgencies as dock, platform and airport lighting, etc. General Electric Co., Schenectady, N. Y.

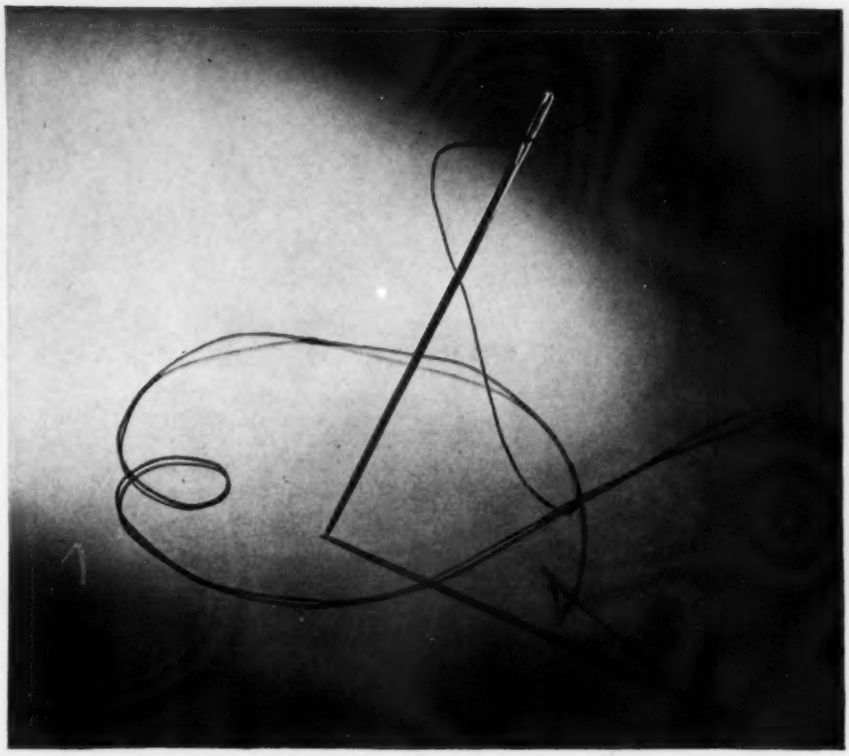
When writing mention WHOLESALER'S SALESMAN

CONNECTOR



Fixture connector made entirely of plastic is of the set-screw type, is colored red for the hot, white for the ground wire. The body of the connector is claimed to be larger, and the Vee-shaped opening for the wires is increased in size for faster, easier assembly. Requires no taping and can be installed with an ordinary screw driver. H. B. Sherman Mfg. Co., Battle Creek, Mich.

When writing mention WHOLESALER'S SALESMAN



THE EYE OF A NEEDLE

In a needle's eye we see a moral for industry. Just as the delicate job of threading a needle goes easier and faster when there is plenty of light, so the delicate jobs of industry are done better and quicker with adequate lighting, properly placed. You can count on Silv-A-King equipment to give you plenty of light, and on Silv-A-King's 21 years of experience for proper layout and installation. Silv-A-King lighting engineers will be glad to advise you on either fluorescent or incandescent installations.

Bright Light Reflector Company, Inc.,
1031 Metropolitan Avenue, Brooklyn, N. Y.

Write for new, 16-page Silv-A-King book:
"Light Is An Essential Production Tool"

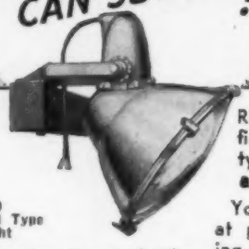
A Few Typical Silv-A-King Users:
AC SPARK PLUG
GENERAL MOTORS
FISHER BODY
INTERNATIONAL HARVESTER
JONES & LAUGHLIN STEEL
PITTSBURGH PLATE GLASS
and many others

FLUORESCENT · INCANDESCENT
SILV-A-KING
EQUIPMENT

SILV-A-KING MAKES *Light* WORK FOR YOU

A WAR TIME NECESSITY YOU CAN SUPPLY!

THE Revere NEW ORIGINAL FLOODLIGHTS



No. 4200 Enclosed Type Floodlight

A REVERE development of outstanding merit. Has rotation stop setting. A very important feature when servicing and relamping.

REVERE Floodlights are "in the fight" on the home front . . . types to serve Industry as well as **army and navy requirements.**

You'll see REVERE Fresnel Units at practically all the shell loading plants. Portable units are there, too, for a variety of needs including lighting for igloos and high explosive storage.

REVERE have many new developments to their credit . . . floodlights and searchlights designed for easy wiring—safe operation, easy installation and maintenance. That's what makes the difference.

You'll get the orders, for there's business to be had! Fortify yourself with REVERE Catalog supplements. WE CAN HELP YOU. . . .

REVERE Hinged floodlight poles. We are the originators of Hinge Poles . . . offering ease of maintenance keeping floodlights at maximum efficiency . . . eliminating risk, climbing.

180° Fresnel Lens—Wide Angle Floodlight — originated by REVERE for Protective Lighting. Available in 4 styles.

REVERE Elliptor 300 to 1500 Watt —Outstanding in efficiency and ease of installation.

REVERE ELECTRIC MFG. CO.

2935 NORTH PAULINA STREET · CHICAGO

Originators of the Hinged Floodlight Pole

INDOOR and OUTDOOR LIGHTING EQUIPMENT of EVERY DESCRIPTION

for DEFENSE PRODUCTION LIGHTING

NEW! PLASTITE NON-METALLIC SNAP-OUT — SNAP-IN REFLECTORS

SNAP ON REFLECTORS

AIR COOLED BALLAST

MOUNT SINGLY OR END TO END

SAVES VITAL METAL!

- - and you save with BET-R-LITE!

PLASTITE REFLECTORS
High reflective, non-metallic surface — concentrates the light on the work area.

ACCESSIBLE STARTERS
All starters replaceable without demounting fixture or removing tubes. No time loss.

AIR COOLED BALLAST
Improves power factor correction. No heat deterioration. Increases lamp life.

SNAP-OUT REFLECTORS
Plastite Reflectors snap out and in for servicing. No clamps, screws or dismantling necessary.

EASY MAINTENANCE
BET-R-LITE Fluorescents bring you every worthwhile feature for fast, easy maintenance. All units may be mounted singly or end to end.

ALL POPULAR SIZES
Available in two and three, 40 watt and two, 100 watt lamp sizes. Engineering data and specification sheets on request.

SEND FOR LITERATURE AND PRICES

Available Through Recognized Wholesalers

BET-R-LITE PRODUCTS, Inc.

1319 Michigan Avenue • Chicago, Illinois • U. S. A.

MOTOR CONTROL

Line of heavy duty interchangeable safety Pull-Push Button Stations for motor control of automatic machines affords positive and simplified means of control. Employs a single button for stopping and starting. The normal position, or point of rest, is in the center, the button is pushed to stop the motor, must be pulled to start it. It "fails safe" when hit or accidentally pushed. Arrow Hart & Hegeman Electric Co., Hartford, Conn.

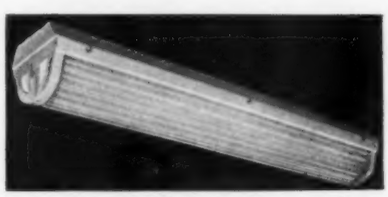
When writing mention WHOLESALER'S SALESMAN

FEEDER DUCT

Low reactance feeder duct is designed primarily to serve as feeder between transformer banks and main switchboards, or as feeders to branch circuits where minimum voltage loss is essential. This duct is principally enclosed in non-critical, non-metallic insulation. Special split-bus arrangement is said to provide balanced phases at all points. Available in capacities from 500 to 6000 amp., 600 volts or less for single phase, 2 and 3 phase and 3 phase, 4 wire services. Square D Co., Detroit, Mich.

When writing mention WHOLESALER'S SALESMAN

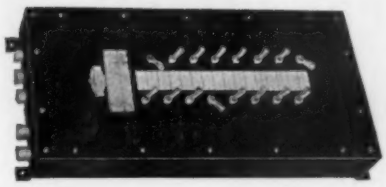
FLUORESCENT FIXTURE



"Safirelite" series of fluorescent luminaires is obtainable in styles accommodating one, two, three or four 40 watt lamps, for either pendant or surface mounting. Knockouts in each end permit single or continuous strip installation in either type of mounting. Furnished wired complete with approved sockets, lamp starters and high power factor ballasts. Lighting Products, Inc., Highland Park, Ill.

When writing mention WHOLESALER'S SALESMAN

PANELBOARD



Dust-tight panelboard, for use in dust-laden atmospheres, may be used in shell loading plants, coal mines, flour mills, etc. It consists of a special cabinet and panelboard of the circuit breaker type, has a solid steel dust-tight front plate, gasketed all around and secured to the extra-wide flange with screws. Conduit outlets are dust-tight welded hubs. Frank Adam Elec. Co., St. Louis, Mo.

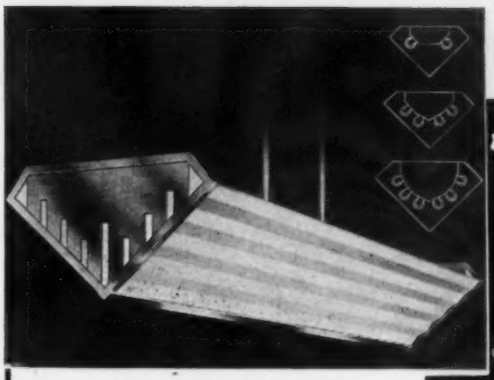
LIGHTING UNIT

No. 5526 High Bay lighting unit, for high and medium high factory spaces, airplane hangars, etc., consists of a silvered glass reflector with Lite-Flo stipple in metal housing with adjustable porcelain socket. Socket may be adjusted for use with 750, 1000, 1500 watt PS lamps, as well as for 400 watt mercury vapor lamps. Sterling Reflector Co., 1431 W. Hubbard St., Chicago, Illinois.

When writing mention WHOLESALER'S SALESMAN

SOCKET

Woodwin No. 860 water tight socket, for marine work, is made of a cold molded composition, outside diameter 2¾ in., total depth without contacts 1½ in. There are 4 holes around the top circumference through which the holding screws are placed. Socket takes a standard medium base Edison lamp. C. D. Wood Elec. Co., 826 Broadway, New York, N. Y.



No. 448VS—4-40w
Pendant Fixture

A Known Product
takes on a new name
~~Claude Banks~~
now KIRLIN
LIGHTING

★ Kirlin presents a full line of fluorescent lighting, 96 designs for commercial and industrial installations. Illustrated is #448VS, List price $78.00, with usual fixture discounts. This unit is being used on many large War Plant projects, and delivery is good at present. There is no better quality in lighting than KIRLIN—write for catalogs or job recommendations. Also recessed flush units of all kinds—easily installed on job.

Underwriters Labelled—Union Labelled Kirlin Products are sold only through Electrical Wholesalers.

THE KIRLIN COMPANY
Former name — Claude Banks Company
3435 EAST JEFFERSON AVE., DETROIT, MICH.

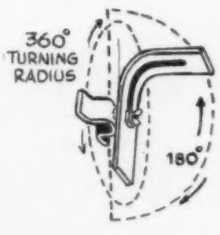
SPECIFY Compco FLOODLIGHTS for SAFEGUARDING MATERIALS and MANPOWER

ANOTHER Compco QUALITY PRODUCT

Other Compco products, well known for their high quality, enduring service and plus-value include fluorescent lighting fixtures, incandescent lighting fixtures and indoor floodlights for industrial and commercial use.

Sabotage is prevented *before it happens* when Compco Floodlights are on the job. No intruder can pass within range of these luminaires without fear of detection. Not only are man hours safeguarded, but night materials handlings are speeded up. Here's an item you can specify *in quantity!* You'll get them *—on time!*

Available For Better Floodlighting with a baked-on white "liquid plastic" reflector and baked-on industrial grey outside finish, three sizes. *Write or wire for specification sheet and prices.*



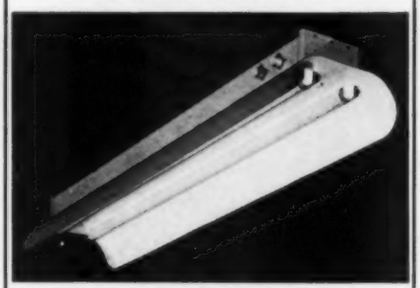
Full up and down adjustment in any radius at any point.

COMMERCIAL METAL PRODUCTS CO.
2251 W. ST. PAUL AVE • PHONE ARMITAGE 1123 • CHICAGO, ILL.

INCREASED PRODUCTION and EFFICIENCY with

WILEY

FLUORESCENT FIXTURES



There is a WILEY INDUSTRIAL

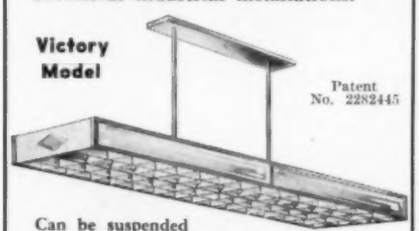
to fit your particular lighting need. Wiley Industrials may be installed as individual units or in continuous rows. Each unit is complete in itself and no "connecting boxes, ends", etc. are necessary. Optional louvers, glass bottoms or open end reflectors and "wide spread" or shallow reflectors are available. Non-metallic reflectors can be supplied.

Continuous, close to ceiling installation

Wiley Industrial Fluorescent Fixtures are the product of a pioneer manufacturer with the experience of many successful industrial installations.

Victory Model

Patent No. 2282445



Can be suspended with any length stems from center canopy end hangers or mounted flush to ceiling.

Recent WILEY Industrial Installations

WHITE MOTORS
BUFFALO FORGE CO.
PICATINNY ARSENAL
NORFOLK NAVY YARD DISPENSARY

Good Territories Open

R. & W. WILEY, INC.

777 Hertel Ave. Buffalo, N. Y.

Member Fleur-o-Lier Manufacturers Association

New Fluorescent Circuit Saves Critical Materials

A NEW circuit for fluorescent lighting fixtures and a specially designed ballast control unit have been developed to make possible a saving of millions of pounds of critical materials and improved lighting efficiency for the country's war effort.

The new "sequence starting circuit" was announced recently by the General Electric, Lamp Department, at Nela Park where it was conceived and developed by a young lighting engineer, J. H. Campbell. Patents on the circuit are held by Mr. Campbell and patents on the special split-phase ballast were issued to General Electric. Other lighting fixture manufacturers are now being licensed to use this circuit, without royalty, in order that suppliers of lighting equipment to war production plants everywhere may have free access to all the possible advantages of the new design.

Among the advantages Mr. Campbell claims for the new circuit are: A saving of nearly 50 percent on critical materials used for the ballast equipment; a 50 percent reduction in the cost of manufacture; total cost per fixture about 20 percent less; increase in efficiency; and a reduction in weight which makes installation easier and less costly.

Engineers cite as example an aircraft plant installation of more than 35,000 fluorescent 100-watt lamps where use of the circuit saved 23,275 pounds of copper, 80,960 pounds of iron and steel, and 3,250 pounds of aluminum—all critical materials. The overall saving in the weight of the ballast equipment for this one factory job was 132,000 pounds, and more than 303 kilowatts of electric current could be released for other war use, thanks to that circuit.

Although it is designed for use only with 100-watt fluorescent lamps on 254, 265, and 277 volt circuits, many of the new warplants have this voltage available and other plants now being converted to war production can be changed over to take advantage of the circuit.

The new fluorescent fixture circuit announced recently will permit the positioning of four 100-watt lamps in one reflector, as seen above, with a single ballast control unit mounted on the fixture. Holding the specially-designed ballast is J. H. Campbell, G.E. engineer who invented the circuit.

The Aviation Industry is doing its job...

A Year's Production A Week — Every Week

A MERE hundred planes a month in 1938; 200 in 1939; 450 in 1940; 1,600 in 1941, and today, as this is written, plane production goes on at a rate of 5,000 a month. A previous year's production now in one single week — every week.

So begins the story of the greatest industrial expansion in history; an industrial miracle that far surpasses anything our enemies ever have done or can do. Not only did we out-produce the Axis but the acceleration in our production during the past 12 months exceeded the greatest increase in German output during their forced-draft war preparation of 1939, when their production rose from 1,100 to 1,600 planes per month.

The toughest part of our job was accomplished in 20 months. We boosted deliveries from 100 or so to 1,000 planes a week, passing the combined Axis powers. Today, Germany's curve is flattening; ours is climbing steeply. Lt. Gen. Henry H. Arnold, Chief of the Army Air Forces, assures us that Army contractors will produce not less than 148,000 planes in the remainder of 1942 and in 1943. During that same period Navy contractors will turn out at least 37,000 additional planes.

Manpower in the airframe, engine and propeller industries was increased from 125,000 to 450,000 workers during the past 20 months, with the prospect that the industry will be employing more than 1,000,000 men and women in 1943. Many manufacturers are solving their personnel problems by recruiting women workers. More than 40,000 of them — teachers, stenographers, waitresses, housewives and school girls — today are welders, assemblers, machine operators and inspectors on aircraft production lines. Productive floor space in the airframe, engine and propeller industries expanded from 18,000,000 sq. ft. to nearly 55,000,000 sq. ft. during the last 20 months. Further expansion to more than 60,000,000 sq. ft. may be expected this year and an ultimate figure of more than 100,000,000 is a distinct possibility.

To grasp the full magnitude of this task we must remember that a single medium bomber has 30,000 parts, which are built into 650 minor sub-assemblies to make 32 major sub-assemblies. The entire process involves 30,000 man hours of labor. Each of the two engines in this plane requires 50,000 specialized inspections. Every one of the 50 instruments entails many hours of precision workmanship. Yet today there is one factory turning out 4 bombers every day. Another produces fighters at the rate of nearly 20 a day.

To the amazement of the entire world these manufacturing miracles were accomplished without sacrificing the high standard of American aeronautical equipment. There has been some loose talk about the quality of our combat airplanes as compared with those of our allies and our enemies. Indisputable evidence of the superior stamina of our aircraft under fire is written between the lines of almost every war communique. Every battle record tells a story of heavy losses inflicted at small cost upon numerically superior enemy forces. The consistency of this performance on all the far-flung battlefronts constitutes the most eloquent testimony of the high calibre of our designs, our manufacturing methods and the skill and daring of our pilots.

And let us remember that our decisive victory in the battle of production was not won without headaches and heartaches on the part of management, labor and government.

When the President sounded the call for 50,000 planes in the spring of 1940, the program called for only 5,500 military aircraft. Government and industry reeled from the shock — both determined, however, that it *could and would be done.*

The Army, the Navy and the old Defense Advisory Commission set to work to draft a program. This has been revised many times — upward! Congress then proceeded, more slowly, to modify the laws that would have obstructed the realization of the objective. Then the aviation industry, without contracts, in the face of discriminatory profit-limitative legislation, and with nothing but oral assurances of governmental intentions, went ahead with its Herculean expansion plans. New factories were completed long before facilities-contracts and their funds were forthcoming.

The rugged individualists who had founded and built the aviation industry cast aside their rivalries and embarked upon a period of unselfish cooperation. Priceless engineering experience was exchanged. Material was relinquished for transfer to plants where it was needed more urgently. Successful personnel training methods and experience in the use of women workers were pooled for the benefit of all concerned. During one re-

cent month, the cooperation among eight southern California plants averted more than 1,860 potential bottlenecks in production.

As the lessons of the war dictated the need for greater numbers of particular airplane types, many manufacturers accepted orders for planes designed and developed at rival factories. Striking examples are the long range bombers being turned out by plants where only trainers, fighters or dive bombers formerly were made.

Mindful of the risk involved in educating rivals, thereby creating future potential competition, subcontractors nevertheless were sought and trained by pioneer manufacturers. Makers of toys and wheelbarrows, automatic stokers and linoleum were among those who rallied to the call. Within a year subcontracting rose from 13 to 36 per cent of the total program. It still is rising.

When the automotive industry came into the picture, aviation manufacturers gave generously of their time and knowledge to start the newcomers. Liberal licensing arrangements enabled them to reap the full benefits of technical developments. Automotive engineers swarmed through the aviation plants in search of the exacting "know-how" of the aeronautical industry.

Each type of aircraft that reaches the production stage is the result of long periods of research, design and development. The unseen workers toiling in the wind tunnels and the laboratories of government and industry are the unsung heroes who tirelessly are striving to surpass all previous efforts. Their brilliant accomplishments are eloquent testimony of the superiority of men and women who are blessed with freedom of action and thought. Today more than 20 experimental combat airplanes are under development and will replace older types as soon as they fulfill the exacting requirements of our armed forces. Among these are aircraft that promise to outfight and to out-perform any and all of the much vaunted warplanes of the Axis military machine. And this without loss of production.

Every man, woman and child of all the United Nations may fervently be thankful that those who chart our course in aircraft production have not frozen design to such a degree as to make impossible the immediate adoption of improvements as they come out of these laboratories.

What does this brilliant record mean in terms of final victory?

Every newspaper reader has learned this basic war lesson . . . air supremacy is the essential ingredient of military success. As the balance of air power shifts, so do the fortunes of war.

In those dark days when our output was 500 planes a month, Germany's was 2,000 and the German air force was twice that of our Allies. When we reached 2,000 a month last fall, Germany had advanced to a monthly rate of 2,500. Today, as this is written, we have caught up with the enemy's backlog. The air forces of both sides are about equal numerically and United Nations' production exceeds that of the Axis by 27 per cent. Next summer (1943) both the air force and the output of the United Nations will be double those of all the Axis powers.

That is the pattern of ultimate victory!

The pattern of the peace to follow also is gaining in definition. The airplane has shriveled the world to one-fifth its former size. Its use as an instrument of destruction is but a momentary distortion of the pattern of human progress. Its potential power, as a stern preserver of peace, is beyond imagination. Today's air routes of our Army Air Force Ferrying Command are the international trade routes of tomorrow. Giant airliners, by reducing time and space, will speed fraternity among the nations and disunity will give way to better understanding and goodwill.

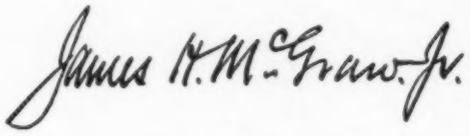
Flying freight trains, with aerial locomotives towing glider boxcars, will serve large cities, decentralizing population and giving to inland cities many of the commercial advantages of seaports. Air mail and passenger pick-up lines will fill the gaps between these transcontinental trunk lines and tie in the smallest hamlets. Universal fly-it-yourself services will provide airplane facilities for those who do not own low cost private aircraft. Roadable rotary wing aircraft and family planes of the fixed wing type may even run household errands.

The coming generation of business men who today is piloting our war planes will find aircraft as essential to business as it now finds them essential to victory.

Commenting on our war production record, Donald Nelson has said, "We are today in the position of men who realize that they are actually doing the impossible".

The mass production miracle that the aviation industry – management and workers alike – has performed through the all-out effort of free enterprise can and will serve civilization in peace as it has in war.

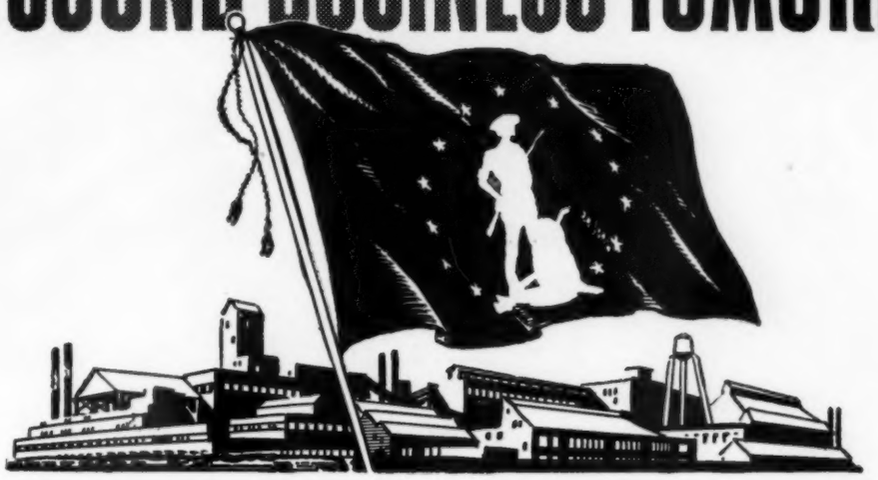
With this boundless new medium of transportation and its concurrent technological developments we shall rebuild our way of life to a rich, new fullness upon the ruins of a war-torn world.



President, McGraw-Hill Publishing Company, Inc.

This is the third of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Payroll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save With

War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

WHOLESALER'S SALESMAN

"Praise the Lord and *Pass the Ammunition*"

THIS Pearl Harborism,* uttered by a fervent Navy chaplain, will live in our school books long after today's headlines and swaying battle lines have passed into history.

It exactly expresses the unique combination of the spiritual and the practical which is inherent in our national character.

. . And America IS *passing the ammunition.* Starting with an atrophied military explosives industry in 1939, the Production for Defense program had raised the rate of "passing the ammunition" by 1400% at the time the chaplain spoke.

▶ Since then, according to an official statement of Donald Nelson:

"Explosives and ammunition are being made at many times the rate of last year as newly constructed plants come into operation. TNT is being made at a rate five times that before Pearl Harbor. Smokeless powder is being produced at a rate almost twice that before Pearl Harbor. One new plant is making more TNT today than the entire explosives industry produced in peacetime and there are several of this type of plant."

Incendiary bombs are vital ammunition in the kind of war we are in. America's chemical industry is far ahead of schedule in passing along that potent ammunition.

Magnesium is part ammunition, part construction material. You know it's now being taken from sea-water, but do you know that we are making at least 100 times as much magnesium now as we did in 1938?

100-octane gasoline isn't ammunition, but it's handy to have around in a war, because bombers using this product of American chemistry can carry an extra ton of what it takes to win.

Synthetic rubber is another necessity in passing the ammunition. The Chemical Industry faces the staggering job of producing more rubber than all the rubber trees in the world were able to pour into the American market prior to the war . . . 875,000 tons per year by 1944 is the goal. Those of us who have seen tank-factories and shipyards grow faster than the corn-crops they replaced believe the Chemical Engineers of America will do the job.

What is the secret of these amazing modern counterparts of the frontiersman's ability to turn from peace to war?

▶ One of the important answers is Chemical Engineering. We just naturally have more men and more machines that know how to make a molecule behave than any two nations on earth.

Starting after World War I, our chemical engineers used the experience gained in guncotton factories to develop the vast peacetime Chemical Industry which gave you rayon, lacquer, transparent wrapping paper, plastic telephones, knockless gasoline, shatterproof glass, synthetic vitamins, laboratory-fathered medicines, plastic tips for your shoe laces, nylon hosiery, and thousands of other comforts to help you live a peacetime Life of Riley.

This vast activity of making life more livable for peaceful Americans had created an enormous pool of management and production men in our chemical industries.

When war came, these men answered their country's call, by rearranging their peaceful atoms into bellicose molecules that would explode, fly, float, shoot or stop a bullet.

Today, fertilizer, salt, whiskey, rayon, even pine stumps are being turned into products of unrecognizable ferocity.

▶ When the war is over, it will be the imagination of the Men of Chemistry that will set our great new war-chemical plants upon a new era of peacetime fruitfulness. Even while the chemical engineer is breaking production records for war, he is planning for a peacetime production that will revert these molecules toward serving our daily lives. Chemical Warfare will become Chemical Welfare, through Imagination.

★ ★ ★

In recognition of the miracle of war production—accomplished through the cooperation of American management and labor with the W.P.B. . . . this 7th in a series of newspaper advertisements is published by the McGraw-Hill Network of Industrial Communication.

*Also title of Gene Lockhart's famous fighting song of World War II

McGRAW-HILL PUBLISHING COMPANY, Inc.

330 WEST 42ND STREET . . NEW YORK

This advertisement appears in a group of newspapers on Wednesday, September 9, 1942

. . . . . and pass the INFORMATION

WHEN an American gunner calls for ammunition, whether he wears a cross—like the chaplain in our newspaper advertisement—or a tattooed mermaid, he sets in motion the mightiest war-machine on earth . . . American Industry.

Knitting together all the industries of America, making it possible for them to turn *quickly* from peace to war, is the Industrial Press.

When the gunner yells for AMMUNITION, industry yells for INFORMATION. It is the job of the industrial magazines to supply it.

"What do we do when we can't get stainless steel for a Toluol recovery plant?"

"Which is the best section of the country for locating our new plant, considering power supply, bombing range and transportation?"

"How can we step-up the alcohol output of our stills, without using scarce metals?"

"What's the best method of training 18,000 green hands to get quick operating efficiency?"

These are typical of the questions that flow over the desks of our editors day after day.

They keep nearly 900 McGraw-Hill editors and engineer-correspondents busy, making field calls, finding the best answer to each problem and reporting the results to management and production men.

Industrial advertisers supplement this work by showing how their products meet specific needs.

This constant interchange of information is part of the strength and adaptability of American Industry.

It is so important that executives are surveying their organizations to make sure that the supply of Industrial Magazines is adequate.

If you would like suggestions as to how to conduct such a survey, write to The Reading Counselor, McGraw-Hill Publishing Company, Inc.

★ ★ ★

THE McGRAW-HILL NETWORK

23 publications, which gather "war-news" from the "war-production-front" through a staff of 153 editors and 725 engineer-correspondents . . . More than 1,000,000 executives, designers, production men and distributors use the editorial and advertising pages of these magazines to exchange ideas on war-production problems.

THE McGRAW-HILL BOOKS

Publishers of technical, engineering and business books for colleges, schools, and for business and industrial use.

McGRAW-HILL PUBLISHING COMPANY, Inc.
330 WEST 42nd STREET • NEW YORK

THE McGRAW-HILL NETWORK OF INDUSTRIAL PUBLICATIONS

American Machinist
Aviation
Bus Transportation
Business Week
Chemical & Metallurgical Engineering
Coal Age
Construction Methods
Electrical Contracting
Electrical Merchandising
Electrical West
Electrical World
Electronics
Engineering & Mining Journal
E. & M. J. Metal and Mineral Markets
Engineering News-Record
Factory Management & Maintenance
Food Industries
Mill Supplies
Power
Product Engineering
Textile World
Transit Journal
Wholesaler's Salesman

LATROBE

FLOOR BOXES *and* WIRING SPECIALTIES

No. 400
"BULL DOG"
INSULATOR SUPPORT

A wide variety of sizes for every requirement. Machining and threading carefully done for extra speed in installation.

Latrobe Floor Boxes and Wiring Specialties are made of high quality materials and can be depended upon for satisfactory performance under all conditions. Ease of installation makes possible important time saving.

LATROBE PRODUCTS are HIGH QUALITY

No. 284
RECEPTACLE NOZZLE

One of many "Latrobe" type nozzles for watertight floor outlets. No. 284 is a double duplex nozzle. Very neat and compact. ½" brass pipe extension. Or if required, ¾" pipe extension.

No. 110 "LATROBE"
WATERTIGHT BOX

Designed to eliminate the use of small screws, receptacle straps, filler plates,. etc. Saves 15 to 20 minutes on each installation job.

LATROBE PRODUCTS are DEPENDABLE

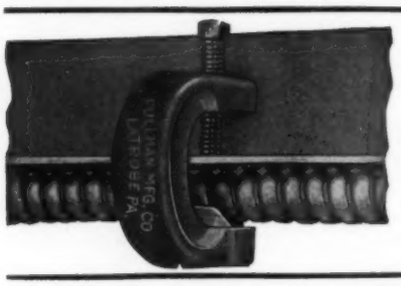
GANG BOX

No. 252-R Floor Box with No. 206 and No. 207 Nozzles. Minimum height to top of cover plate 3½". Box bodies 3" high.

ADJUSTABLE WATERTIGHT FLOOR BOX

No. 130 Box with No. 207 Bell Nozzle. Cut-away view. Cover plate 3½" — overall height 3½".

LATROBE PRODUCTS are ECONOMICAL



No. 480 "BULL DOG"
ARMORED CABLE SUPPORT

Light weight and strong, for supporting or hanging cable from any angle. Easiest, most economical method of temporarily or permanently installing armored cable.

FOR INDUSTRIAL, COMMERCIAL, RESIDENTIAL JOBS

Check your stock today and let us know your requirements. We will make every effort to ship when wanted.

FULLMAN MANUFACTURING CO. QUALITY AT LATROBE SUPREMACY LATROBE, PA.

FULLMAN MANUFACTURING CO.
LATROBE . . . PENNSYLVANIA

Fostoria Celebrates 25th Anniversary

The 25th Anniversary of Fostoria Pressed Steel Corporation, Fostoria, Ohio, is being celebrated, by the company with the issuance of an anniversary booklet illustrating the company's all-out service to war industries.

With examples of Fostoria lighting equipment at work on the Production Front and letters from executives of war production plants, Fostoria shows what it is doing as well as outlining the highlights of what it calls "Fostoria Industrial Service."

Typewriters Wanted

Standard typewriters are needed for use by the armed forces and by Government agencies. Any business concern or individual having one or more spare typewriters is urged to make them available to the Government by arranging sale through special buying agents specified by the WPB.

The agents will be designated as Official U. S. Typewriter Purchase Depots and will act for the Procurement Division of the Treasury Department. Prices to be paid will be equal to factory trade-in allowance for such machines as of February 1, 1941.

Only those standard typewriters made on and after January 1, 1935 are wanted. Portables are not needed.

Roller-Smith Company Appoints W. N. Grooms

The appointment of William N. Grooms, Salt Lake City, Utah, as a district sales agent was announced recently by W. R. Swoish, vice president of the Roller-Smith Company, Bethlehem, Pa. Mr. Grooms will handle the complete Roller-Smith line in Utah, Idaho, Montana and parts of Wyoming.

Noma Purchases Ansonia Electrical

All the outstanding stock of the Ansonia (Conn.) Electrical Company, manufacturers of wire and cable, has been purchased by Noma Electric Corp., New York. Ansonia will be operated as a wholly-owned subsidiary of Noma.

Nehri Sadacca, president, and Joseph H. Ward, vice-president, respectively, of Noma, hold those positions in the Ansonia Company. William J. Weaver, formerly of Bryant Electric and Whitney Blake, has joined Ansonia as assistant to the president. Mr. Weaver will make his headquarters at the plant in Ansonia, Conn.

WHOLESALER'S SALESMAN NEWS

Substantial Price Reduction On Fluorescents Announced

Reduction runs counter to current trends, will cut war lighting cost, represents seventh cut of fluorescent prices in four years.

A SUBSTANTIAL saving in the cost of good light and particularly in the lighting costs of the war production effort was made effective September 1 when all fluorescent lamp prices were reduced an average of 15 percent. First announced by one company, competing concerns promptly followed, and at press time General Electric Co., Sylvania Electric Products Inc., the Westinghouse Lamp Division and Champion Lamp Works had made the reductions in lamp prices.

The price reduction, coming at a time when the costs of many other commodities are rising, is attributed by one manufacturer to a combination of new manufacturing economies made possible by increased use of the product in war industries and recent new technical developments in the field. The reduction is the seventh major one for fluorescent lamps in the last four years.

Pointed out in the general announcement of this price reduction are other specific consumer benefits now offered, such as the increased light output and the extended burning life of today's fluorescent lamps. For instance, it is stated that the popular 40-watt fluorescent lamp now gives 5½ times more value for the lamp dollar than it did in 1939. It gives 12 percent more light and lasts 66 percent longer.

Three sizes of incandescent lamps were also included in the price reduction. The 40-, 50-, and 60-watt household lamps were brought down to 10 cents from the previous list of 13 cents.

ANNOUNCEMENT

The Management Committee of the National Electrical Wholesalers Association has announced that, to cooperate with the Office of Defense Transportation in its efforts to reduce non-war travel, THE OCTOBER CONVENTION HAS BEEN CANCELLED.

To fill the gap thus created, to give the electrical wholesaling industry the benefit of the best and up-to-the-minute thinking of its leaders in this war emergency, to supply details of the most recent rulings and suggestions from top officials of the War Production Board, this publication will devote its October issue to

A Full-Fledged CONVENTION IN PRINT

It will contain timely, instructive, interesting "speeches" from leading wholesalers and government officials.

THE EDITOR

Staff Changes At Electra Supply Co.

New office manager at Electra Supply Co., Inc., Poughkeepsie, N. Y., is H. K. Phillips who was formerly in the field. Included in his new responsibility is the handling of all priority orders and the expediting of deliveries to all war production plants.

B. Reifler, formerly service manager, is now a Technical Sergeant at Camp Chaffee, Ark., with 17 months of service. I. Groupe took Sgt. Reifler's place as service manager but has since then left the company to work in the stock control department of a war plant. L. Prince, who was a truck driver for Electra, is awaiting a call from the Army.

The war has brought other new responsibilities. B. C. Manning, appliance sales manager, is concentrating on appliance business with war housing projects as well as servicing the shipbuilding firms which are working on the small boat program. S. Fleck has taken on the coverage of ordnance plants and airport construction work in addition to his regular coverage of the contractors and dealers located in his territory.

FEDERAL
ELECTRIC PRODUCTS

at this point

THE "SAFETY SWITCHMAN" CARRIES THE LOAD

In Federal Panelboards, the "Safety Switchman" is an ingenious switch that stands constant watch ahead of every fuse. This means a higher safety factor and perfect control protection of lighting and small power circuits. Federal Type NTPR Panelboards—to handle from 4 to 40 circuits—are compact, ruggedly built, and approved by Underwriters Laboratories. They have quality construction features that you'd expect would cost considerably more. *For complete Federal panelboard specifications, write for Bulletin No. 21-40.*

FEDERAL PANELBOARD FEATURES

Shallow Boxes for Thin Wall Mounting • Large Wiring Gutters
Flush Locks and Catches, Concealed Hinges • Plenty of Knockouts
Solderless Terminal Connectors • Rugged Construction
Giant Switches • Low Cost

FEDERAL ELECTRIC PRODUCTS COMPANY, INC.
52 PARIS STREET, NEWARK, N. J.

Follow the Federal Line

Kolts Electric In New Home

The Kolts Electric Supply Company of Kingston, New York, has moved into its new headquarters at 25 Grand St., that city. In the new, up-to-date showroom the company is showing its line of lighting fixtures, lamps, wiring devices and supplies, appliances and fans.

Square D Opens New Branches

Two new branch offices have been opened in war production areas by the Square D Company, Detroit manufacturers of electrical equipment.

C. T. Nash, formerly with the company's New York office, has charge of the new branch at 146 Chestnut St., Springfield, Mass. W. W. Hendrickson has been transferred from the Charlotte office to open a branch at Greensboro, N. C., located at 303 Kensington Road.

Pneumatic Tool Moves Branches

The Independent Pneumatic Tool Company, manufacturers of Thor pneumatic and electric tools, announces new locations of its branch offices in Boston, Mass., and Birmingham, Ala., and the appointment of a new Boston branch manager.

The Boston office, now managed by Vance G. Turner, has moved to 78 Brookline Ave. The Birmingham office has moved into its new home at 1411 North Third Ave.

California Plant For Essex Wire

A new manufacturing plant to serve the West Coast area is being established in California by the Essex Wire Corporation of California, a branch of the Essex Wire Corporation whose main factory is in Detroit, Mich.

The immediate purpose of the new factory will be the manufacture of electrical conductors for the aircraft, shipbuilding and armament industries in that region. The plant will be equipped with modern machinery and laboratory facilities for the drawing, annealing, winding, treating and testing of copper wires and cables.

The company has acquired ten acres of land in the industrial section of a small California city, together with several brick and steel buildings which contain a floor area of approximately 35,000 square feet.

Wholesaler Adds Marine Division

In order to further its service by aiding the country's "ships for victory" program, Joseph Kurzon, Inc., New York wholesaler, has added a marine division. The manager of this new department, S. Silver, states that he is equipped to serve promptly on orders for marine lighting equipment, wires and cables, boxes, switchboards, handlanterns, special marine plugs and receptacles, telephones, buzzers, alarm panels, etc., for use in the construction of all types of ships.

The company is also interested in receiving production information from manufacturers who produce special marine equipment.

S. D. Bernstein, for 18 years purchasing agent for the Kurzon outfit, is now with the Army.

Leave For War Work

Jack Shelton and John Casey have resigned from Lindley Electric Supply Co., Philadelphia, Pa., to work for the duration where, according to partner W. Wick, they will help most "to lick the hell out of Hitler, Hirohito and Mussi." Shelton has been in the company for 17 years and 3 months. Casey was more of a newcomer with only 16 years of service.

Housing Service Standards Defined

More detailed specifications defining permissible utility service standards for war housing projects have been issued by the War Production Board. The ruling brought under a single set of regulations the standards of utility service which may be built into war homes and defined those which could be connected by the utility.

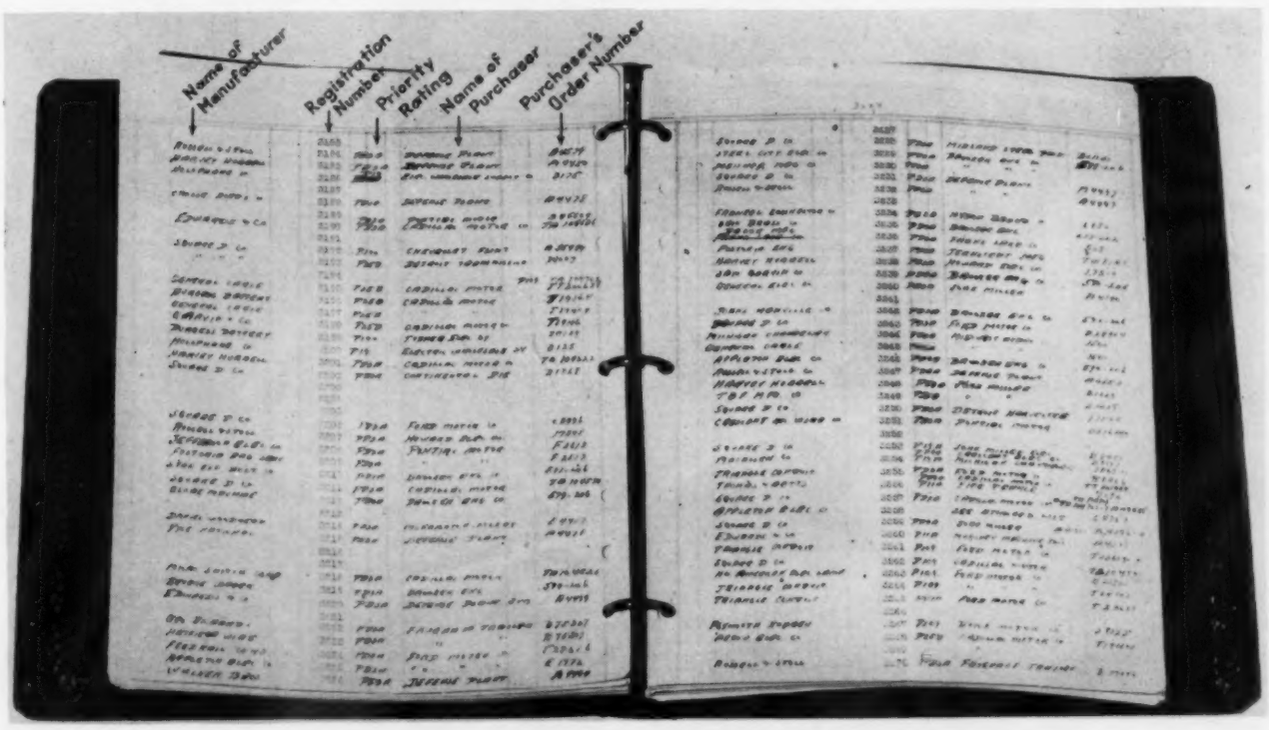
Application to make service extension for a privately financed housing project must be made by the builder on Form PD-545, after the project has been approved by the FHA. Government financed projects requiring service extensions have their request made through the utility on PD-545.

Approval will be made on a letter which will give the authority permission to withdraw materials from its own stock or to purchase the necessary conductor, transformers, and meters. The utility will get a priority rating for these purchases equal to that of the housing project.

Limit on Materials

Under the new WPB order, materials which may be used in wiring the war housing projects have been further restricted. The copper allowance for a single-family home remains at 30 pounds, but for one-family semi-detached and two-family detached homes only 25 pounds per unit is permitted. Multiple unit family buildings get 20 pounds per family, and dormitory units 6 pounds per person. These figures are the total copper poundage permitted for all service drop, secondary, primary and grounding conductors.

P. C. SOWERSBY, for several years assistant advertising manager for the GE Lamp Department at Nela Park has been assigned to Detroit where he will specialize in wartime lighting designed to increase production of war goods manufactured in the Michigan industrial area. He has been with GE since he received his B.S. in electrical engineering from Oregon State College in 1927.



PRIORITIES SALES RECORD BOOK for an electrical wholesaler. The system illustrated above was worked out by H. M. Hopkins, sales manager of Fife Electric Supply Co., Detroit, for ready reference and follow-up.

War— NO RESPECTER OF TOOLS

When a line must be strung—in a hurry—a soldier has no time to baby tools. Under war conditions, Klein pliers and equipment are proving the wisdom of the policy of extra quality—of added care in manufacture that has made the name of Klein synonymous with the finest in tools among linemen and electricians—everywhere. Today, as in the past, under the acid test of war, this equipment is proving to our sailors and our soldiers here and in foreign lands that, the extra quality that has characterized Klein equipment "since 1857" assures better work—performed on time.

Since 1857

ASK YOUR SUPPLIER

Foreign Distributor:
International Standard Electric Corp., New York

Mathias KLEIN & Sons
Established 1857 — Chicago, Ill., U.S.A.
3200 BELMONT AVENUE CHICAGO

Hygrade Becomes Sylvania Elec. Prods.

Hygrade Sylvania Corporation became Sylvania Electric Products, Inc., officially on August 13th, following a special stockholders meeting on July 30th.

Walter E. Poor, executive vice-president of the company, declared that the company's position in its own trade circles and its relations with the

Walter E. Poor

public will be clarified by the change. Nothing in the former name indicated the nature of the company's business, he said.

The company's operating divisions have used separate trademarks and brand names since the merger of the Hygrade Lamp Company and the Sylvania Products Company and the Nilco Lamp Works in 1931. Eventually, it was stated, all products of the company will be issued under the single Sylvania brand.

Mullin Now Sole Owner Of K. C. Elec'l Supply

J. L. Mullin has purchased the interests of H. F. Stock in the Kansas City Electrical Supply Co., Kansas City, Mo., now becoming the sole owner. Mr. Stock is now associated with Albert Kahn, construction engineers of Detroit, who are active in the warplant building program near Kansas City.

New Space For Gold Seal Electric

A building at 628 Filbert Street, Philadelphia, has been leased by the Gold Seal Electric Supply Company to provide additional warehouse space.

Irving Goldberg, formerly assistant purchasing agent, has gone to Camp Key, Mississippi, following his gradu-

ation from the Casey Jones School of Aeronautics at Newark, N. J. James Johnson and Faytress Perry from the shipping department have joined the armed forces. Carl Greenberg is now a counterman.

G. N. Lewis Joins Boston Woven Hose

Gordon N. Lewis has joined the Boston Woven Hose and Rubber Company as sales manager of the tape department. He has been connected with the electrical industry for many years and for the past eight years has held a similar position with the Jenkins Bros. Company, Bridgeport, Conn.

Three Staff Changes At Cutler-Hammer, Inc.

Three intra-company changes in personnel have been announced by the executive offices of Cutler-Hammer, Inc., Milwaukee, Wisc.

Mr. R. Keeler has been added to the sales staff of the district office at 401 North Broad Street, Philadelphia. Before the transfer he was in the engineering and sales department of the

R. Keeler

company's main office. Mr. Keeler entered the experimental department of Cutler-Hammer shortly after receiving his degree from the University of Illinois.

The New York Office at 8 West 40th St., has added J. A. Darnell to its staff. Previously, he was with the sales department of the main office.

J. E. McSorley has been transferred from the Resales Division of the Milwaukee office to the Cincinnati district office.

THEY'RE ALL FOR SALE
. . . and ready for prompt delivery

Wolverine Copper Soldering Lugs and Splicing Sleeves

Right now, our stocks of lugs and sleeves are sufficient to ship most A-1 rated orders in 48 hours or less!

We're trying to keep it that way, so that we can give you excellent service as well as fine quality lugs and sleeves.

Both in materials and workmanship, these Wolverine products have long been recognized as standard by electrical wholesalers and contractors. From ore to finished product, Wolverine quality is now rigidly controlled.

Place your order with Wolverine today.

WOLVERINE TUBE DIVISION
OF CALUMET AND HECLA CONSOLIDATED COPPER COMPANY
Seamless COPPER · BRASS · ALUMINUM
1425 CENTRAL AVENUE · DETROIT, MICHIGAN

And there's just as much difference between the *streamlined* BRIEGEL METHOD of making conduit connections and former, old-fashioned methods!

Take a look at the picture below: two squeezes with the patented B-M "indenter" (which costs only $1.25) and you have a smooth, efficient job when you use B-M connectors and couplings. No extra turns or twists—no nuts to tighten!

The BRIEGEL METHOD saves you up to 50% on time and a substantial materials-saving (in keeping with today's thinking). Means more profit, too! Approved by Underwriters' Laboratory, of course.

DISTRIBUTED BY

The M. B. Austin Co.
Chicago, Ill.
Clayton Mark & Co.
Evanston, Ill.
Clifton Conduit Co.
Jersey City, N. J.
General Electric Co.
Bridgeport, Conn.
The Steelduct Co.
Youngstown, Ohio
Enameled Metals
Pittsburgh, Pa.
National Enameling & Mfg. Co.
Pittsburgh, Pa.
Triangle Conduit & Cable Co.
Elmhurst, N. Y. C.

BRIEGEL METHOD TOOL CO., Galva, Ill.

A LITTLE LAMP WITH TWO BIG WARTIME JOBS!

TYPE S-14 G-E Glow Lamp is available in 3, 2½, and 2-watt sizes.

1. FOR EMERGENCY THROW-OVER lighting circuits in war production plants. G-E Neon Glow Lamps, versatile and economical, are ideally suited for use on emergency throw-over lighting systems in vital war plants. They require little power, can operate on standby battery or generator service and stand up under shock and vibration.

2. AS PILOTS AND INDICATORS on electrical products used in the war effort. G-E Neon Glow Lamps are widely used as pilots and indicators, making hundreds of electrical products safer and more useful. Vital equipment can be made more efficient and safer with the help of these lamps.

If you don't now handle the G-E Neon Glow Lamp line, you'll find it worthwhile to look into it. For the latest catalog sheet and full information, write the address below.

NELA SPECIALTY DIVISION, LAMP DEPARTMENT

GENERAL ELECTRIC

410 Eighth St., Hoboken, N. J.

W. M. Boland is New Western S. M. for GE

From wholesaler's salesman to sales manager marks the career of Walter M. Boland, whose appointment as western regional sales manager of the receiver division of General Electric Radio, Television and Electronics Department has just been announced by A. A. Brandt, sales manager of the division. Mr. Boland replaces Henry A. Crossland who has been transferred East to engage in special war production work for GE.

For the past 14 years, Mr. Boland has been in electrical wholesaling at

the San Francisco District Office of the General Electric Supply Corporation, where for some time he was in charge of radio, cleaner and small appliance sales. In 1934 he was made district lamp specialist and in 1938 became head of Hotpoint major appliance sales.

He will continue to make his headquarters in San Francisco.

War Work Taking Wholesalers' Staffs

More examples of how the call to the armed forces is cutting into the staffs of electrical wholesalers, come from Texas and Iowa.

From Davenport, Iowa, J. E. Sweeney, division manager of Westinghouse Electric Supply Co., reports that E. W. Allen, merchandise supervisor in connection with sales to Iowa utilities, has resigned from WESCO to accept appointment in the U. S. Ordnance Department at Peoria, Ill. Counterman Al Westberg enlisted in the Navy and has reported to the Great Lakes Naval Training Station. C. E. Juergens, lighting engineer at Davenport, has accepted an appointment in the lighting depart-

NALCO

Infra-Red Ray
LAMPS
For Radiant Energy —Baking And Drying

Meet industry's demands for radiant energy-heating and drying by featuring Nalco Dritherm Carbon Filament Lamps. Available in Inside-Silvered finish (no reflectors required) or in Clear Glass style.

Write for prices and discounts

NORTH AMERICAN ELECTRIC LAMP COMPANY
1034 Tyler Street St. Louis, Missouri

TORK

TURN ANYTHING ELECTRICAL ON & OFF REGULARLY

The **TORK CLOCK CO., Inc.**
MOUNT VERNON, NEW YORK

ALLEN

NO PRIORITY TROUBLES!

when you sell

ALLEN *SILOY* SODER

Perfect results with most common metals

Get your stock now!

L. B. ALLEN CO., INC.
6701 Bryn Mawr Ave. Chicago, Ill.

AN ALERT MFR.

—has a copy of the Directory of *Verified* Electrical Wholesalers

AT HIS ELBOW

—to save sales time
$25.00 per copy

Wholesaler's Salesman, 330 W. 42 St., N.Y.

ment of a Bellendorf, Iowa, war production plant.

In Pecos, Texas, 6 men from the Galbraith Steel Supply Company, have left to join the Army or Navy, and according to local manager M. P. Withers, some of them have already seen action. The remaining Galbraith employees are working overtime locating and delivering electrical materials to the air schools being constructed in that vicinity.

Ebersole in New Post At Westinghouse Lamp

Russell E. Ebersole, assistant manager of the Northeastern District for the Lamp Division of Westinghouse, has been made manager of the Middle Western District with headquarters in Chicago. B. H. Sullivan, general manager of the Lamp Division, announced the appointment of Mr. Ebersole to succeed Leon Paletou who has been assigned to the Bloomfield, N. J., headquarters.

Mr. Ebersole joined Westinghouse in 1922 as lamp salesman in the New York area. In 1932 he became manager of metropolitan New York sales. He was appointed assistant manager of the Northeastern District in 1938, serving under F. S. Kinney, and has held that position until now.

Association News

KANSAS CITY—The Electric Association of Kansas City recently held its 16th Annual Family Picnic at Swope Park. After games and contests were over for the day, the crowd gathered in the Band Pavilion to hear the speech of welcome made by President Earl Goetze, also a report from Entertainment Committee Chairman Everett Agee and then witnessed the eagerly awaited distribution of prizes.

NEW ORLEANS—The Electrical Assn. of New Orleans cooperated with the New Orleans Assn. of Commerce and WPB in organizing a meeting on "Priority Changes and New Procedure." Speaker Louis H. Clay, Priorities Manager of WPB, gave an interesting talk on the subject of "Priorities"; Messrs. A. A. Claverie and C. H. Wiegand dwelt at length on the importance of the Production Requirements Plan; and Geo. S. Rapier discussed the new Allocation Classification System.

That this League's activities include entertainment as well as more serious affairs is evidenced by the Annual Golf Tournament and "outing" which was held on August 4 at the Metaire Golf Club.

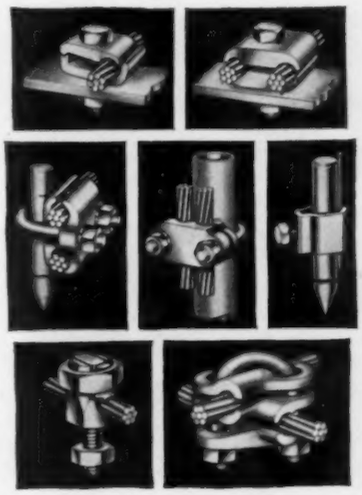
"You can get **ANY** Grounding Connector—

—in the **COMPLETE** line."

The pictures below can only give you an idea of the variety, because Penn-Union makes ALL good types.

Write us for any grounding connector, clamp or stud . . . for all combinations of pipe, rod, flat bar, cable, braid, tubing.

Every one a *dependable* unit of protection for personnel and equipment . . . of ample capacity, high mechanical strength, and resistant to corrosion.



Also the most complete line of Service Connectors, Cable Taps, Terminal Lugs, Tees, and other fittings. *Penn-Union connectors are the choice of leading utilities, industrials, contractors and electrical manufacturers.* Write for Catalog.

PENN-UNION ELECTRIC CORPORATION
ERIE, PA. *Sold by Leading Jobbers*

PENN-UNION
Conductor Fittings

DONGAN
TRANSFORMERS

FOR
LOCALIZED LIGHTING
OF MACHINE TOOLS AND
FACTORY EQUIPMENT

PRIMARY
460 and 230 VOLTS

SECONDARY
230 and 115 VOLTS

EFFECT SAVINGS IN INSTALLATION AND OPERATING COSTS

★ ★ ★

Wiring box standard equipment—circuit breakers or fuses optional in capacities up to 500 volt-amperes.

DONGAN ELECTRIC MFG. CO.
2985-2995 FRANKLIN ST. DETROIT, MICH. U.S.A.

GREATER PROFITS

with

WARE HI-LAG

Strong Time-Lag
2 TO 5 TIMES
Normal Current

INCREASED PROTECTION

End Needless Fuse Blowing
Certified to Comply—
Federal Specification
WF-803a, Type II

•
APPROVED BY UNDERWRITERS
•

Write for Details
Mfgr's Agents Territory Open
WARE BROTHERS
4420 W. Lake St., Chicago

Wholesaler Sends News To Men In Service

A four-page mimeographed news letter is being issued monthly by the wholesale division of Mill-Power Supply Co., Charlotte, N. C., for former employees who have left to serve in the armed forces.

Begun in June, "Power Lines," as the little newspaper is called, is designed to keep the men acquainted with the activities of both the company and the personnel, and also to keep those in service in touch with each other's activities, transfers and promotions.

In a personal, chatty style, the first issues told of office happenings, new babies, a staff chicken dinner party, and little personal stories and opinions designed to allay homesickness and bolster morale of the absent staff members.

Besides the 18 men who are already serving Uncle Sam, Mill-Power Supply Company has lost several girls who have joined their husbands who are on active war duty, while several other staff members have resigned to take special training in preparation for future induction.

CHANGED YOUR ADDRESS?

Copies of WHOLESALER'S SALESMAN, to have their full value, should reach you promptly and with no inconvenience. This we constantly strive to do.

BUT, if you have moved lately and haven't notified us it means a delay in your copy reaching you.

If you are planning to move, why not tell us so we can change your stencil to coincide with your change of address?

Just fill-in this form and mail it to us. We'll do the rest in getting your copies to you promptly.

Your Name.....
Old Address.....
City & State.....
New Address.....
City & State.....
Company.....
Title.....

WHOLESALER'S SALESMAN • 330 West 42nd St. New York, N. Y.

1ST LT. W. D. BAKER, Army Air Forces, English Field, Amarillo, Tex., is the new title and address for the former merchandise supervisor at WESCO St. Paul.

Turn in Lumilines On New Purchases

New Lumiline lamps cannot be had hereafter unless an equal quantity of old Lumiline lamps is turned in by the purchaser, according to an announcement from the GE Lamp Department. It was explained that the construction of this type of lamp requires nickel and chrome iron, critical materials no longer available to lamp manufacturers.

MORE FACTS ON PRODUCTS

Adjustable Lighting Units—Steber Mfg. Co., Chicago, Ill., announces Bulletin 108 which describes adjustable lighting units for bench, wall or post mounting and portable floor stand type.

Control Centers—Twenty-page Bulletin No. 411 describes and illustrates the line of control centers, including motor and switchboard type, made by the Trumbull Elec. Mfg. Co., Plainville, Conn.

Data Book—Available for free distribution by the Porcelain Products, Inc., Findlay, Ohio is a 32-page booklet on porcelain protected knob and tube wiring entitled, "Installation Manual & Data Book on Porcelain Protected Wiring Systems."

Fluorescent Reflectors—Bulletin F-61 covers new "V-Series" reflectors which employ a minimum quantity of critical materials as manufactured by DayBrite Lighting Inc., St. Louis, Mo.

Fluorescent Reflectors—Booklet entitled "Fluorescent Luminaires" can be obtained from Martin-Gibson, Detroit, Mich. It contains pictures of government specified fluorescent reflectors, price lists, typical office and factory installations, and briefly, some unusual methods of installing reflectors.

Industrial Lighting—Available from Bright Light Reflector Co., Brooklyn, N. Y., is a 12-page booklet entitled, "Silv-A-King Makes Light Work for You." It offers practical applications of fluorescent and incandescent lighting in industrial plants as well as illustrations and interesting data about the company's reflectors.

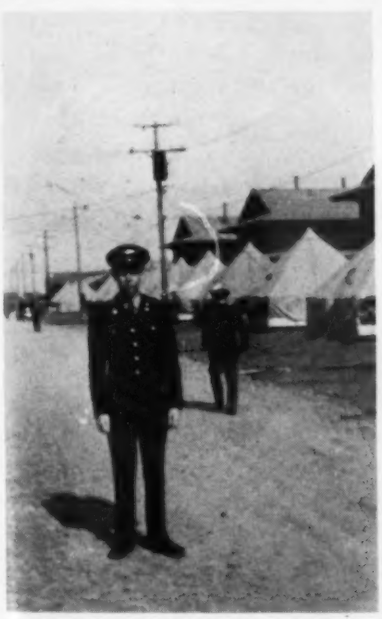
Fuse Clip and Terminals. A four-page folder describing the new Littelfuse Beryllium Copper Fuse Clips and Screw Terminals is available from Littelfuse, Inc., 4757 Ravenswood Ave., Chicago, Ill. This folder is issued as a compendium of technical as well as general information on clips and terminals made of Beryllium Copper Alloy, and includes mechanical and electrical specifications.

Lamp Locks—New Literature on "Flu-O-Locks", stamped fibre lock and key arrangement designed to hold fluorescent lamps securely in their sockets, is available from the manufacturer, the Laduby Company, 183 Brewery St., New Haven, Conn.

Machine Tool Accessories—Literature recently published by Ideal Commutator Dresser Co., Sycamore, Ill., describes the company's machine tool accessories such as line centers, metal etcher, demagnetizer, portable cleaners, etc.

Surface Mounting Devices—Surface mounting devices manufactured by The Bryant Elec. Co. of Bridgeport, Conn., are illustrated with pictures and wiring diagrams on catalog pages 76 A, B, C and D.

Tape—Four-page bulletin recently issued by Accurate Mfg. Co. of Garfield, N. J., gives the net price list of friction and rubber insulating tape on a guaranteed footage and per roll basis.



LONG DISTANCE shot of Flying Cadet J. J. McCaffery, Jr., who left the merchandise division of the McCaffery Co., Inc., South Bend, Ind., to serve Uncle Sam.

OBITUARIES

John L. Bossert

John L. Bossert, sales engineer for the Ward Leonard Electric Co., Mt. Vernon, N. Y., for the past 17 years, died at his home in that city recently.

After a period of teaching at Cooper Union in New York where he had received his degree in electrical engineering, Mr. Bossert joined the sales force of Ward Leonard. He had been in charge of sales engineering work on naval and marine equipment for the company.

Sam Schneidman

Sam Schneidman, purchasing agent of Co-Op Electric Supply Co., Chicago, died suddenly on June 7 of a heart attack. He had apparently been in excellent health and had been on the job the previous day.

Mr. Schneidman had been associated with Co-Op for 21 years, starting as an order clerk. Prior to this he had been with Montgomery Ward and Co.

He is survived by his widow and two sons, one of whom is in the Signal Corps.

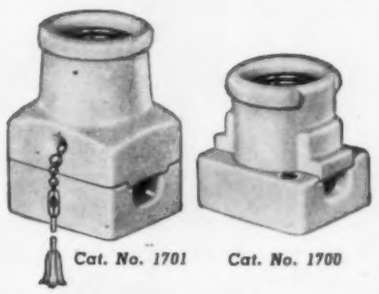
P&S

WIRING DEVICES

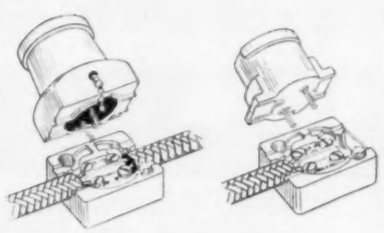
NOW being used on defense projects throughout the country

TWO NEW WIRING DEVICES

SIMPLE TWO-PIECE DESIGN



Cat. No. 1701 Cat. No. 1700



Designed especially for today's market — PORCELAIN CABLETTES. Easy to wire and assemble. No boxes, clamps, connectors or soldering — Installed directly on the surface.

Conserve Critical materials— Get the job done quickly without sacrificing quality.

WIRE TODAY THE P&S WAY

Send for complete information regarding P&S Wiring Devices for the 1942 market.

Pass & Seymour, Inc.
SYRACUSE, N. Y.

MORE SALES
STEADY REPEATS
SATISFIED CUSTOMERS
with
TRICO
powder-packed
FUSES

●YOU HAVE SOMETHING BETTER TO OFFER. A custom-built powder-packed renewal element instead of an ordinary fuse strip.

●THE ELEMENT IS NOT INTERCHANGEABLE with "bare links"—you get all the repeat business.

●CUSTOMERS GET THREE TIMES THE SERVICE.

●NO PRICE COMPETITION—TRICO quality sells itself—price is no issue

●SOLD ONLY THRU WHOLESALERS

●THEY'RE NATIONALLY ADVERTISED

●FOR PRESTIGE—FOR PROFIT

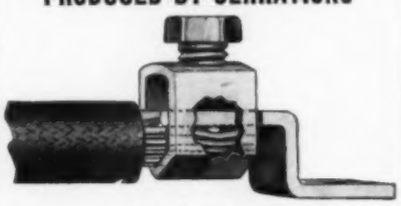
SELL TRICO

TRICO FUSE MFG. Co., Milwaukee, Wis.

TRICO POWDER PACKED FUSES
STOP WASTED KILOWATTS AND WASTEFUL SHUTDOWNS

ILSCO
Electrical Connectors

"X-Ray" View Shows
UNYIELDING GRIP
PRODUCED BY SERRATIONS



Wires are nested and wedged in and holding power is at maximum by the serrations both in the collar and tongue. Maximum contact is established and even pressure is distributed over the curve of the conductors held.

No special tools required. Cut wiring costs and time... but not the wires.

MAIL THIS COUPON TODAY

APPROVED

Please rush us sample and illustrated 32-page catalog.

FIRM NAME .....

NAME .....

ADDRESS .....

ILSCO MARIEMONT, OHIO
COPPER TUBE & PRODUCTS, INC.

ADVERTISERS' INDEX

A	Page
Adam Electric Co., Frank	14
Allen Co., L. B	101
Amer. Automatic Elec. Sales Co	8
Appleton Electric Co	71
Arrow-Hart & Hegeman Elec. Co	12

B	
Benjamin Elec. Mfg. Co	75
Bet-R-Lite Prod., Inc	84
Briegel Method Tool Co	100
Bright Light Reflector Co	83
Bull Dog Elec. Prod., Inc	6
Bussmann Mfg. Co	Back Cover

C	
Champion Lamp Works	72
Chicago Transformer Corp	81
Colt's Patent Fire Arms Mfg. Co	11
Commercial Metal Prod. Co	85
Corning Glass Works	60
Crescent Ins. Wire & Cable Co	10
Curtis Lighting, Inc	88
Cutler Hammer, Inc.	Inside Front Cover

D	
Day Brite Lighting, Inc	34, 35
Dongan Elec. Mfg. Co	102

E	
Edwards & Co	3
Electro Mfg. Co	40, 41

F	
Federal Elec. Prod. Co	96
Fleur-O-Lier Mfrs	26, 27
Fostoria Pressed Steel Corp	61
Fullman Mfg. Co	94

G	
General Electric Co. (Bridgeport)	66, 67
General Electric Company (Nela Park)	30, 31, 100
Goodrich Elec. Co	79
Guth Co., Edw. F	22

H	
Hazard Ins. Wire Works Div	7

I	
Illinois Electric Porcelain Co	82
Ilsco Copper Tube & Products, Inc.	104

J	Page
Jefferson Elec. Co	16

K	
Kirlin Co.	85
Klein & Sons, Math	98
Kulka Elec. Mfg. Co	80

M	
Martin-Gibson Corp.	44, 45
Miller Company	70

N	
National Elec. Prod. Co	9
North American Lamp Co	101

O	
Okonite Company	7

P	
Pass & Seymour, Inc	103
Penn Union Electric Corp	101
Plymouth Rubber Co	Inside Back Cover

Q	
Quadrangle Mfg. Co	78

R	
Republic Steel Corp	18, 19
Revere Elec. Mfg. Co	84
RLM Standards Inst., Inc	87

S	
Smith Iron Co., A. L	69
Spero Electric Corp	50, 51
Square D Company	4
Steel & Tubes Div	18, 19
Sylvania Elec. Prod., Inc	54, 55

T	
Tork Clock Co	101
Trico Fuse Mfg. Co	104

U	
U. S. Treasury Dept	91

W	
Wakefield Brass Co., F. W	76
Ware Brothers	102
Westinghouse Lamp Co	48, 49
Wiley, Inc., R. & W	86
Wolverine Tube Division	99

The Chemical Engineer cuts years to months...

Born in the turmoil of the last war, he is shaping a new world with mighty swords and magic plowshares

GERMAN CONSUL-GENERAL HOSSENFELDER, writing from New York on March 3rd, 1916, to von Bethmann-Hollweg, chancellor of the Imperial German Government, confidently predicted defeat for the United States because we were totally dependent upon the great chemical industry of Germany. "Americans," he wrote, "can never establish such an industry. They have the resources but they lack the necessary science and technology. And, besides, the conflicting selfishness of American business renders it impossible."

Even before the ink was dry on Hossenfelder's letter a new figure appeared on the industrial scene—the American chemical engineer. With the help of patient, but progressive and venturesome capital, he laid the foundations for the largest and most resourceful chemical industry in the world.

Today he is an all-important figure. For we are fighting a chemical war, even though the emphasis that is placed on planes, tanks, ships, guns and other armament tends to obscure that fact. And this chemical engineer is waging war for us on a prodigious scale. Bombers carry more tons of more deadly explosives because he has developed stronger and lighter alloys and more efficient fuels. Tanks are better armored and wield heavier blows because of products and processes born in chemical laboratories. Ships are welded together by new metallurgical techniques that save precious months over older processes. Gun barrels that are made in minutes instead of hours shoot farther and faster because of better ammunition.

And quantity keeps pace with quality. By mid-year of 1942, explosives were being produced in newly constructed plants twelve times faster than a year ago. Smokeless powder output has been doubled since December. Five times as much TNT was being made in July as in the months preceding Pearl Harbor. One single new plant produces more of this high explosive than did the entire pre-war industry—and several of these plants already are in production.

By what Major General William N. Porter, Chief of the Chemical Warfare Service, calls a "miracle of production," the sort of incendiary bombs that General Doolittle's lads showered on Tokyo were rolling out of our plants within a few weeks after we got into the war. As General Porter puts it, "they were rolling not by hundreds or even thousands, but by the millions." That record he has cited as a tribute to the "ingenuity, industriousness and patriotism" of the American chemical industries.

Yet the General agrees that we have only started to produce in the tremendous volumes that will shortly make Germany, Italy and Japan "revolve on their boasted Axis." Our newest plants are just coming into production. They face no limiting shortages of materials for, in the main, our chemical industry draws its strength from coal, salt, sulphur, limestone, oil, natural gas, coal-tar, air and water—all available in abundance.

We have heard little about the use of poison gas by our enemies. It may be that good reasons for this are stored away in our well-stocked chemical arsenals. American chemical manufacturers have worked hard and long with our armed forces so that if the time ever comes to make good on the President's warning of retaliation, America will be more than ready.

And defense against gas has not been overlooked. Every soldier is equipped with a most efficient type of gas mask, developed through twenty-five years of intensive research. The Chemical Warfare Service already is manufacturing millions of masks for distribution to civilians. Let us hope we may never have to use them. But if we must, we need have little fear of any gas or secret chemical.

This gas mask program has been made possible by a literal metamorphosis of production facilities, as peacetime industries have been converted to war purposes. A lumber company, for example, is making activated carbon from sawdust. Novelty manufacturers of rubber goods are turning out valves and assembling other parts. Former manufacturers of shirts, swim-suits, shoes and beds have converted their facilities and are contributing their share. More than eleven hundred contractors and two hundred and fifty sub-contractors are supplying their full quotas of chemical warfare materials. And production is right up to schedule.

But the bulk of the war job of our chemical industries has to do with items other than weapons and

ammunition. The German Consul-General, in that 1916 report to Berlin, said that many American industries were in a critical condition because of the scarcity of German chemicals. He related in particular that "the cries for help from the world of physicians are becoming louder and louder and more and more insistent." Thanks to our chemical industries this cry no longer is heard. Even though we are again cut off from quinine, camphor and some other strategic medicinals, our homes and hospitals are adequately supplied with synthetic products. Most of these are better and cheaper than the natural materials. The same sulfa drugs that have saved so many civilian lives in recent years have gone to war, with the result that deaths from infection at Pearl Harbor and Bataan are reported as surprisingly low. In this war we suffer no shortages of iodine and potash. Pioneering research in the field of vitamins has led to new industries that are contributing to health and better nutrition.

Those new uniforms the soldiers are wearing are of better quality and will last longer than the shoddy, ill-fitting outfits of 1918—thanks to sunfast dyes and new man-made products. And in the field of fabrics, nylon and the new rayons have gone to war in parachutes and super-strong cords for tank treads and tires.

* * * * *

And that brings up the question that 30,000,000 American motorists are asking with ever increasing concern. "When, Mr. Chemical Engineer, are you going to give us a set of new tires for the old family bus?"

That, I am told, is just what the chemical engineers have set about to do on a scale that is difficult to comprehend. In the words of Raymond Clapper, the columnist, "the synthetic rubber program for this year and the next is the biggest job of chemical engineering ever undertaken in the world." A billion dollar industry is being built at record speed to make almost a million tons a year of chemical rubber to serve our war needs and those of our allies. This cannot be accomplished overnight. Many months are required to design and fabricate complex equipment, much of which must be made from corrosion-resisting metals and alloys. We shall be lucky if a tenth of the desired capacity is in continuous production this year and even more lucky if, by the end of next year, the new industry should be turning out synthetic rubber at a rate of 875,000 tons—using both petroleum and grain as raw materials.

All this, of course, must go for essential military uses but there is reason to believe that in the laboratory and pilot-plant stages we have some promising substitutes and stop-gap materials that may tide us over until the big program starts rolling.

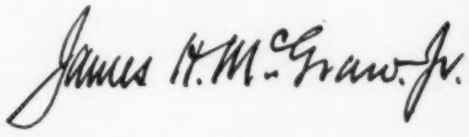
The present prospect of real success is possible only because of the cooperation of the chemical, rubber and petroleum industries. Individual firms and entire industries have set aside their normal desires and selfish interests to pool their patents, share their research and engineering developments for the common good. Synthetic rubber is here to stay as the basis for a great post-war industry: no doubt as to that lingers in the minds of the men who have seen many other natural products—indigo, alizarine, camphor, vanillin—all eventually fall before the ingenuity of the chemical industry.

* * * * *

In the coming peace to which we look forward hopefully, we shall find a new world full of new materials, new conveniences, new jobs, new opportunities, all stemming out of the present-day work of the chemical engineer. The same tough, transparent plastics that now make noses for bombers will give us new frameless windows for our homes and automobiles. With capacity to produce at least 2½ billion pounds of aluminum, which is five or six times pre-war production, and a magnesium capacity 50 or 60 times the pre-war figure, many new uses will develop for these structural materials of great strength and amazing lightness. Almost anything that flies, runs, moves, or otherwise is motive, will have a place for them. New fibers such as nylon and vinyon had scarcely got started before they were put to war use. Once the war is over they will be with us in greater abundance and at lower cost for a variety of uses so vast and so diverse that we can scarcely imagine them.

And the chemical engineer continues to create and to invent. He meets the challenge of scarcities and shortages with ever new "substitutes" that excel their originals. Even before the war is over he will have placed at our command a hundred new materials which we did not have before. His workshop is all industry. His contributions are as limitless as are our needs.

But right now his all-important job is to help win the war; to fight to a finish the ruthless and resourceful enemies that are devoting all their science and technology to bring about our defeat. So, as we take stock of our assets in this desperate struggle, we count among the first the proved resourcefulness of the research-minded chemical engineers we now have mobilized to help us fight this chemical war.



President, McGraw-Hill Publishing Company, Inc.

This is the fourth of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.